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TWICE MONTHLY
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SEPTEMBER 1958

Year
Vol. 51
No. 17

CALIFORNIA

OIL WORLD

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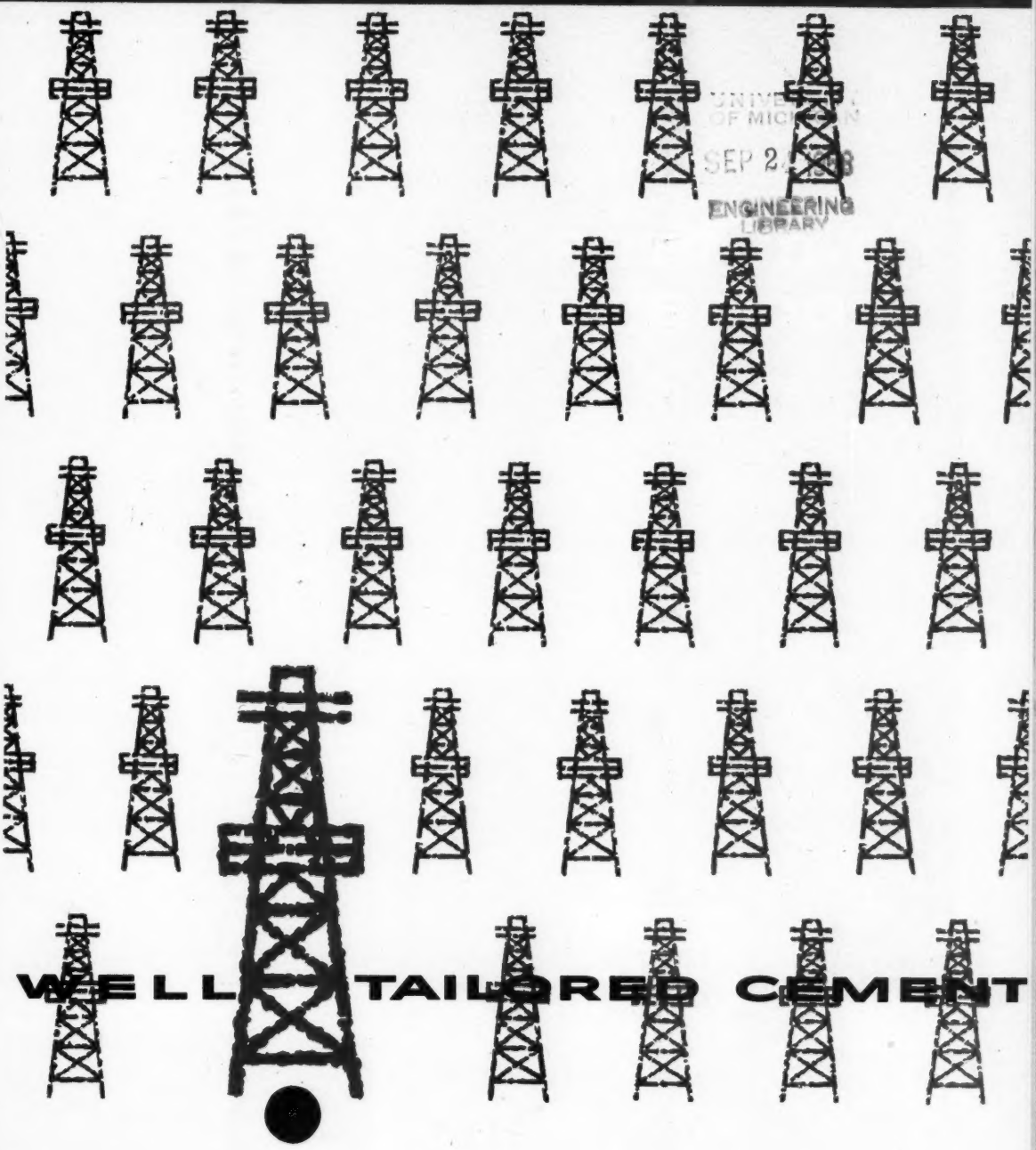

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CALIFORNIA
OIL WORLD

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Thermal Recovery Successful But Costly

It costs a lot of money to get previously unrecoverable crude oil out of the ground by passing a combustion front through the oil zone—but such oil can be recovered successfully. These two counterbalancing facts were the highlights of the three-year thermal recovery experiment conducted by General Petroleum Corporation which was the operator for the more than $1,000,000 research project conducted in Kern County's South Belridge field approximately 30 miles north of Taft.

Other companies contributing to the project were: Continental Oil Company, Chanslor-Western Oil and Development Company, Esso Research and Engineering Company, Gulf Oil Corporation, Honolulu Oil Corporation, Ohio Oil Company, Shell Development Company, Sunray Mid-Continent Oil Company, The Texas Company, Tidewater Oil Company, and Union Oil Company. The method used was based on pioneer laboratory and field work by the Magnolia Petroleum Company.

One of the spectacular results of the experiment was that the total oil rate of four production wells reached a level some 15 times their total rate before ignition, for a while. Within the one and one-half years after ignition, about 50 per cent of the oil initially in place was produced. With normal methods of production a recovery of 10-15 per cent of the oil in place could be expected in the life of the field, which was estimated to be from 40 to 60 years.

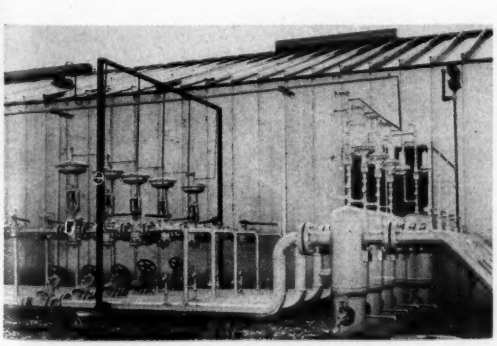
However, high rates of burnt gases and corrosive conditions in hot producing wells created extremely severe bottom hole well maintenance problems and led to serious bottom hole well failures. Such failures were limited to the immediate area of the project in which active combustion was taking place.

Overall cost of the experiment was several times the value of the oil produced but was considerably higher than might be expected in a possible commercial application of the process. The higher costs included the drilling of four observation wells and three core holes and many measurements made in the interests of research.

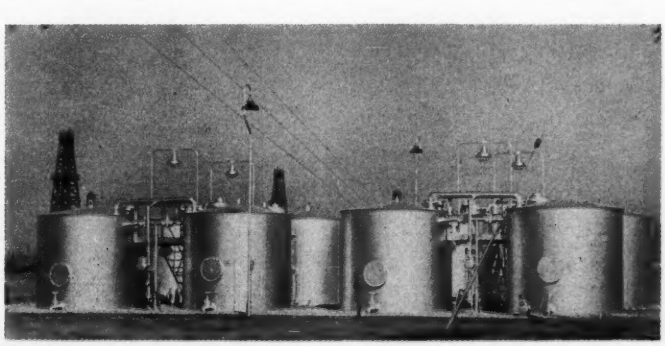
Also, the test pattern area was only half the normal five acre well spacing in this field. The 2½ acre test pattern included four equally spaced production wells surrounding one centrally located injection well.

Greatest items of cost were drilling, repairing, redrilling, abandoning and replacing producing wells, and the cost of the three air compressors and their operation. Other factors which made the cost so high included surface and sub-surface maintenance, technical labor, buildings, instrumentation and various measuring and gauging devices.

The experiment started May 31, 1955 with the purpose of obtaining basic information needed for making engineering and economic appraisals of commercial recovery of heavy oil by this thermal recovery method. Since combustion recovery experiments in other areas had been conducted in



These diaphragm motor valves and separators show some of the complex equipment involved in the South Belridge thermal recovery experiment.



Tank battery at General Petroleum Corporation's thermal recovery experiment. Eight 100-barrel tanks were provided to permit gauging each production well separately.

Y. Frank Freeman

—or how to drill an oil well in the heart of Hollywood

"Not many of us ever have the opportunity to see an oil well drilled in our own back yard.

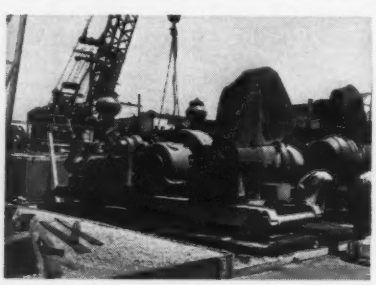
"When Union Oil geologists recently found encouraging prospects of oil on the Paramount Pictures lot here in Hollywood, I got a chance to observe first-hand what happens.

"Usually, drilling can be a pretty noisy operation.

"But to keep from disturbing the community or interfering with Paramount's routine, Union trained a crew to work as quietly as if a baby were sleeping close by.

"Electric motors were purchased for the job, in place of the big-throated diesels.

"Giant machinery rested not on the ground, but on springs. Rubber pads

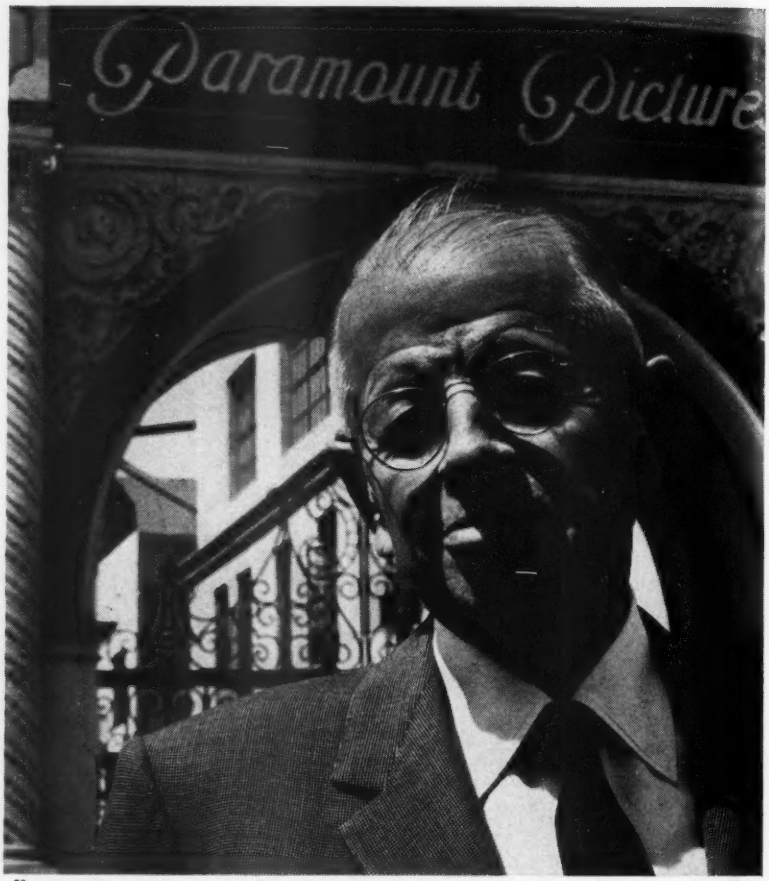


prevented steel rods from knocking together. Deep layers of decomposed granite were laid beneath heavy machinery to reduce vibration.

"Anything capable of making a distracting noise had a sound-proof house built around it. The oil rig itself was wrapped in a triple-layer kimono of fiberglass and plastic—and camouflaged.

"As if this weren't enough, Union Oil rented an apartment overlooking the site and furnished it with sound-measuring instruments. All unusual noises were compared with a noise-history made of the area before drilling began. Any new noise originating from the operation was promptly hushed.

"The result? Residents living within earshot of the drilling slept undisturbed.



"WE WERE NEVER BOTHERED BY THE DRILLING IN OUR OWN BACK YARD."

"And our people working on Paramount's sound stages were never bothered by the well being drilled in their back yard!" * * * *

Mr. Freeman is Vice President of Paramount Pictures Studios.

We appreciate his comments, because we believe that a company that does a good business in a community also has the responsibility to be a good neighbor.

As it turned out—after all our trouble and expense—the Paramount well resulted in a dry hole. But this is the normal hazard of a business in which only 1 wildcat well in 9 produces oil.

YOUR COMMENTS ARE INVITED. *Write: The Chairman of the Board, Union Oil Co., Union Oil Center, Los Angeles 17, Calif.*

Union Oil Company OF CALIFORNIA 76

MANUFACTURERS OF ROYAL TRITON, THE AMAZING PURPLE MOTOR OIL

smaller patterns, an important purpose of this test was to determine whether the process could be operated in a pattern of near-commercial well spacing.

South Belridge was chosen because its oil sands are similar to many heavy oil sands which typically have low primary recovery and leave a large amount of oil in place. Such fields are not particularly suited for common secondary recovery methods.

From a conservation viewpoint, only a small fraction of the otherwise unrecoverable crude oil is consumed as fuel in the process. The bulk of the fuel is coke and heavy residuum, the least valuable part of the oil. The lighter, usable oil is pushed ahead of the burning front after its viscosity has been reduced both by temperature and removal of the heavy ends.

The experimental area looked like any other oil field—above the ground—while the test was being conducted. There were some highly sensitive instruments recording significant events, but to the casual observer, this was "just another oil field." The big changes were going on under ground at a depth of 700 feet in a 30 foot interval of Tulare sand.

Detailed planning and drilling of wells was followed by pumping of the wells from October, 1955 through February, 1956. Air injection was started March 1, 1956 and continued with only brief interruption through to the end of the experiment. The total oil rate was 20 barrels per day before ignition. The compressors had a rated capacity of 3.5 million cubic feet per day at a maximum pressure of 500 psi.

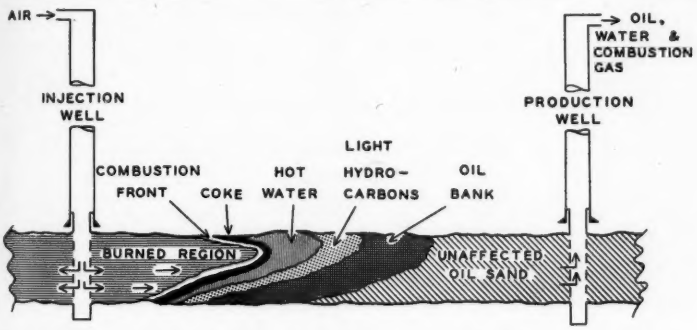
Air was injected at a temperature of about 100°F. Despite the low injection temperature, heat generated by slow oxidation of oil in the reservoir gradually raised the reservoir temperature. The oil ignited spontaneously at the injection well on June 15, 1956. Ignition equipment was never used.

Although air injection had little direct effect upon liquid production, oil rates began to increase rapidly about two weeks after ignition took place. Frequent well stimulation work was necessary to maintain oil rates. As the combustion front approached production wells, the water cut increased and water and oil emulsions became a serious problem.

The combustion front reached two of the producers about three months after ignition, but corrosive conditions and high temperatures downhole made well maintenance difficult and costly. To continue production it was necessary to drill replacement wells. Stainless steel liners were installed in the replacement wells and gave much better service than the conventional steel liners of the original wells.

As a result of well failures and recompletions or replacements, and well stimulation work, oil rates were erratic. After failure of the two wells, the total oil rate fell to its lowest level of 20 barrels per day. Upon completion of replacement wells, the oil rate reached its maximum level of 300 barrels per day for a short while.

This test demonstrated that much of the Belridge heavy oil which was previously impossible to bring to the surface can be recovered rapidly—but at a high cost.



Cross section of the thermal recovery process which was used during the experiment conducted by General Petroleum Corporation in the South Belridge field.

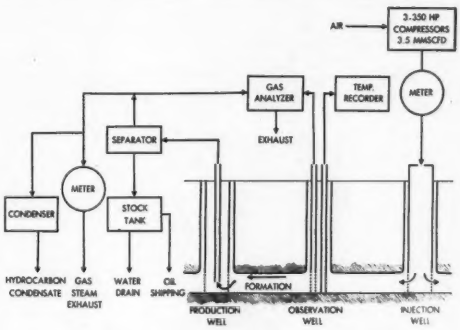


Diagram shows equipment involved and how it is utilized in the South Belridge thermal recovery experiment.

FOUR CORNERS PIPE LINE MAKES GRANT TO MUSEUM

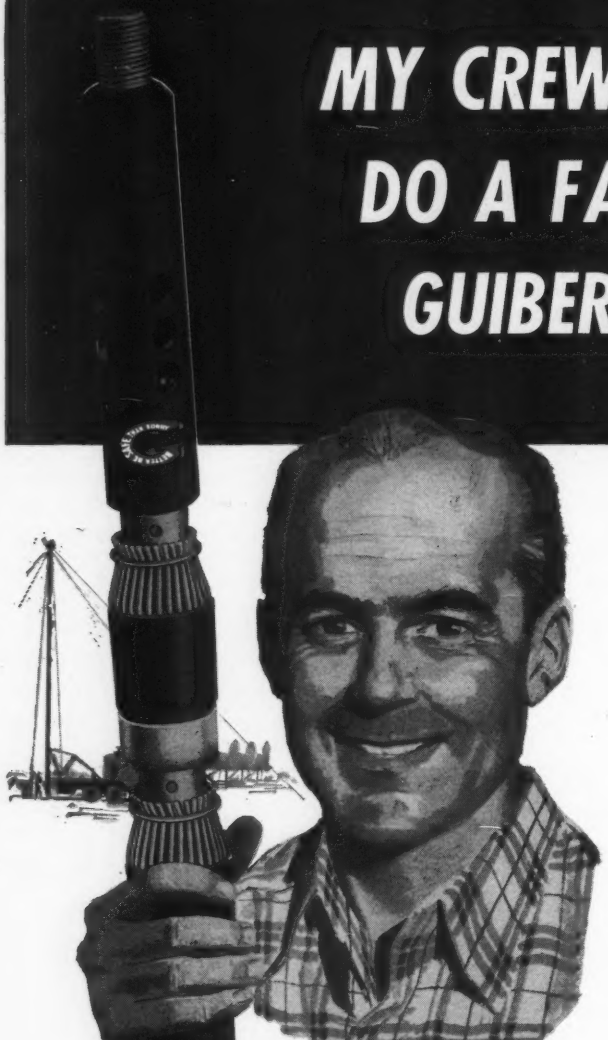
A grant of five thousand dollars has been made to the Museum of Northern Arizona at Flagstaff by the Four Corners Pipe Line Company. This is to complete a study of archeological material discovered along the route of the line according to Shell Oil Company one of the owners.

Two archeologists, Dr. Wesley Bliss of Ojai and David Brugge of Gallup, were hired by the Four Corners company to excavate sites in advance of the bull dozers and ditch-diggers along the 700-mile route from Farmington to Los Angeles. The sites were of prehistoric dwellings and burial places, some dating back to the ninth century. Dr. Bliss made excavations in the Kayenta area and uncovered pit houses eight to eleven centuries old.

Prior to the building of the Four Corners line, Dr. Jesse Nusbaum of the National Park Service gave the name "Pipe Line Archeology" to his studies of materials found in the Navajo reservation by the builders of the El Paso Natural Gas Company's pipe line.

Owners of the Four Corners Pipe Line Company are Standard of California, Shell, Richfield, Gulf, Superior (all oil companies) and Continental Pipe Line Company. Shell Pipe Line Company was builder and is operator of the $50 million line.

MY CREWS DO A FASTER JOB with GUIBERSON SWABS



There's no substitute for a fast-falling, smooth-pulling Guiberson swab in speeding-up swabbing operations. Crews make fewer trips .. do a better clean-out job .. lift more fluid per hour. So naturally they're in and out quicker .. at the *lowest possible* swabbing cost. Match one of these cups to your swabbing job.

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TYPE GW .. for light loads

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Cups are compounded to Guiberson's exclusive formulas for maximum resistance to oil .. acid .. abrasion.

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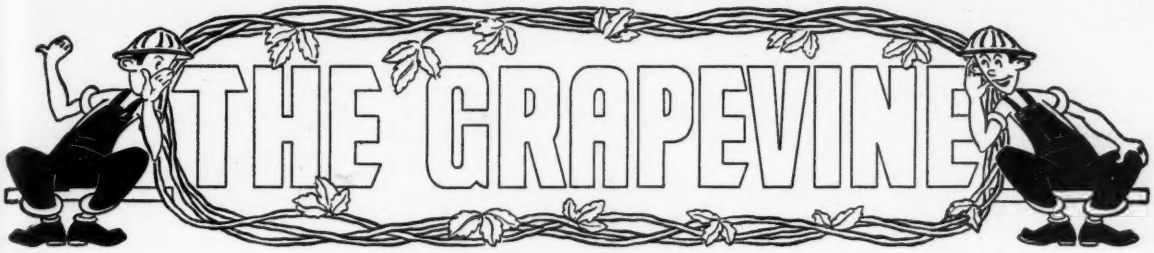


By RICHARD SNEDDON

The Ebbing Tide

In the last several weeks four of our very good friends have been gathered in by the Great Reaper and we are simply at a loss for words to express the unutterable sadness that this thinning of the ranks, the pass- of these fine people, brings to us. Perhaps as we advance in age our circle of activity becomes reduced in radius and we become more acutely conscious of those about us—more conscious too of our inseparable ties with them. The life we live is so intimately bound up with the comings and goings of these kindly folk that we are inclined to accept them all too casually. Then one by one they are taken away until at last we realize that each individual casualty is an erasure also from our own circumscribed little life pattern, a pattern that may at any time disappear altogether. We think vividly of Walter Monroe coming to our office a few days prior to his death and being so typically concerned about Ed Lloyd; Markley Brown, the always friendly Hillman-Kelley executive, dropping off suddenly and leaving everyone aghast at the precipitousness and irrevocability of his departure; Charlie Wagner, the Wagner-Morehouse engineering genius, widely known and well regarded throughout the industry, the recent victim of a long lingering illness; and that pleasant mannered, quietly efficient chap, Steen Fletcher, president of Fletcher Oil Company, also the loser in a battle for existence. All nice people whose actions and very presence have sweetened the daily living of those around them, and to all of whom we bid a wholly unanticipated but infinitely tender farewell!

The Effects of Tourism

And now returning to more mundane matters, for some days now we have noted flitting mysteriously about the village, no doubt bent on some nefarious enterprise, a quartet of formidable citizens from the bustling bailiwick of New Amsterdam. It was made up of Joe Taylor, former purchasing biggie for Socony-Mobil, now languishing in the lap of Rowayton luxury and apparently liking it tophole; Bill Beck, the current high echelon purchasing executive from Socony, expatriated Californian, and a lad with more admirers than a high school quarterback with a red convertible; Hank McAdam, Jones & Laughlin's No. 1 New York representative, a warmly friendly chap, easy to know and easy to like; and big, handsome Jud Sherrill, advertising magnate, who is thinking of settling out here permanently. All of these fellows are either Nineteeners or have had the privilege of supping with them, so needless to say the local boys welcomed them with wide open wallets. What was the result of the various conflicts that ensued, we can't say in case the Infernal Collector of External Revenue might be one of our readers. But the home lads certainly shed some sizable tears when they saw their lost bullion being carried aboard a plane that was headed in the general direction of Fort Knox.

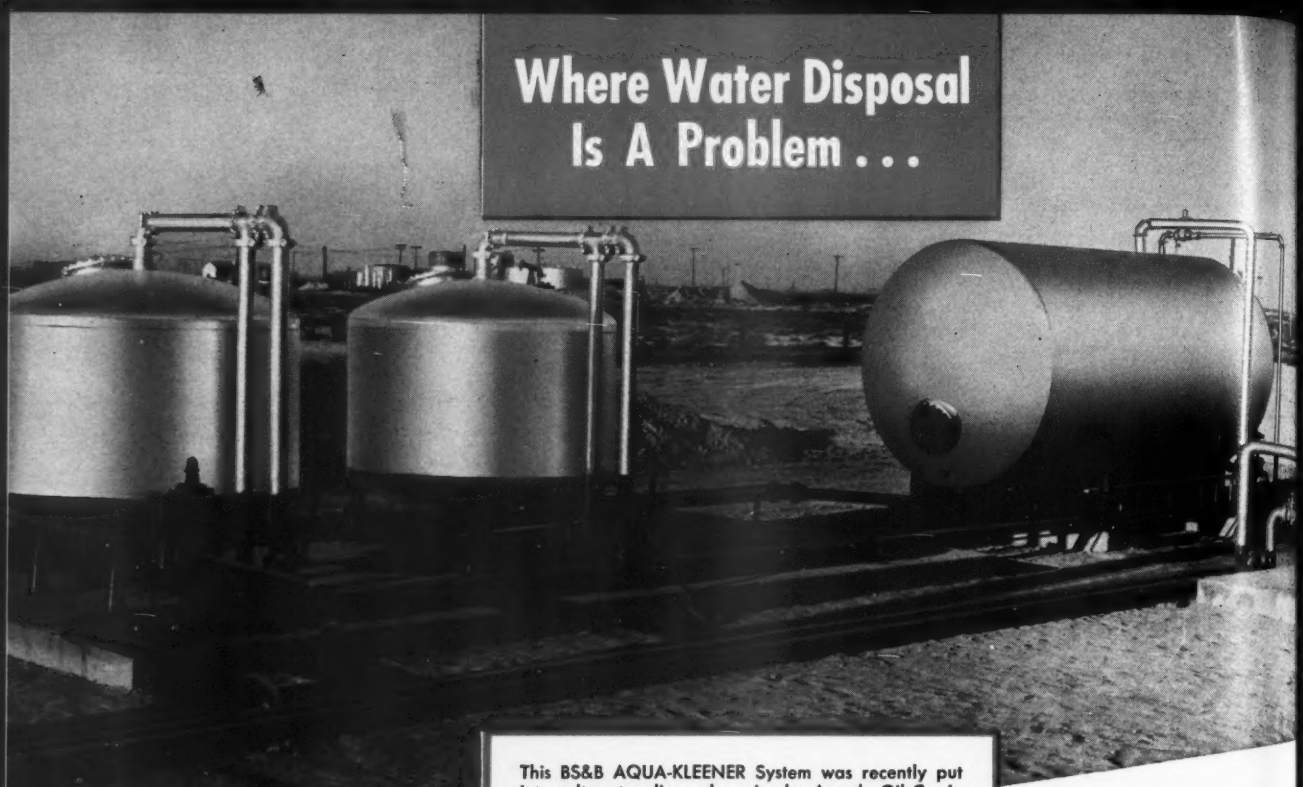
Roy Johnson Goes East

After a few glimpses of these evanescent ambassadors as they skipped around sundry corners, we finally caught them all together at a testimonial dinner at the Jonathan Club. This was given by the Nineteeners for ex-Big Shot, Harvard grad, and sensational bebop pianist, Roy Johnson who will be back yonder in the extreme east before our panting public have quit scrapping at the newsstands for this issue. Wielding the gavel for the affair and doing a right snappy job was the present Big Shot, Henry Paulsen, and the occasion, of course, was the pending departure of Roy for Jersey City, N.J., where he will henceforth officiate as vice president in charge of sales for Culbert Pipe & Fittings Company, a well founded institution dealing in oil refinery and general industry piping and equipment. Three years ago we had the pleasure of meeting Roy's future boss, Ed Thompson, president of the Culbert enterprises and we can testify that our boy is going to be in right good company.

The Gathering Begins

Through Bill Beck, the Johnsons have acquired a nice home in Ridgewood, New Jersey and if any Belmont Shore Club member wishes to contact them there, they may do so at 533 Upper Blvd., after September 15. Besides the four New Yorkers (we always think of Joe Taylor as one although he now resides in Connecticut), there was quite a gathering of local people at this luncheon to wish Roy the best. Among them we observed Fred Currie, the Caledonian Copperweld mogul and his genial associate, Buck Newsome; Joe Aderhold, the silver voiced tenor, formerly one of the partners in Allied Supply Company, now a sort of amateur golf professional; Joe's erstwhile partner, Gordon Tunnell, currently running the show between renditions of "I could never live without you;" Gil Nesheim, another of the original Allied Supply boys who is so well heeled that he has a tough time living down to the Joneses; Lev Sacre, the perennial secretary and power generator of the 19ers; Jim MacDonald, the Coles Levee kid, inventor of the disintegrating flash shot; and Hal Lindquist, the noted Scandihoovian,

Where Water Disposal Is A Problem . . .



This BS&B AQUA-KLEENER System was recently put into salt water disposal service by Arcady Oil Co. in the Raisin City Field near Kerman, California. Consisting of two 7′ x 3½′ Anthrafilt-Permeable Plate Filters and one Horizontal Backwash Tank, it is currently handling approximately 8,000 bbls./day. Future plans call for an additional filter to increase system capacity by 50%.

Install a BS&B AQUA-Kleener® System!

Today, more and more oilfield production men are turning to the BS&B AQUA-KLEENER System as a practical and economical solution to the problem of lease-produced water disposal without the contamination of land areas or surface waters, and without clogging of water injection wells.

Through an improved process of settling and filtering, AQUA-KLEENER removes oil traces and solid particles, and prevents air from contacting the water—thereby reducing precipitation due to oxidation of iron, minimizing corrosion, holding carbon dioxide in solution, retarding aerobic bacteria growth, and in most cases, eliminating the need for chemical treatment of the water.

Each of the components of the AQUA-KLEENER System can be utilized separately or in various combinations, as determined by the type of application and degree of water conditioning required.

If you have a water injection or disposal problem, it will pay you to get full details on BS&B AQUA-KLEENER — today's outstanding water conditioning and filtering system! Ask your BS&B Man — or write to . . .

EFFICIENCY OVER 60 YEARS BS&B RELIABILITY
ANOTHER EXAMPLE OF PRODUCT LEADERSHIP

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known popularly as the Viking of Vitachrome.

The Presentation

Also present were A. S. "Doc" Hayes, the professional drilling contractor with the Websterian vocabulary; Admiral Nokamura Paulsen who presented Roy Johnson a scroll signed by all the Nineteeners, and expressed very neatly their real regard for him and their good wishes for his future health and happiness; Roy Johnson himself who thanked everybody for everything and just hoped that he would make as many good friends in New Jersey and New York as he appeared to have made here in California; Monte Lindmoe, executive vice president of Southwest Welding Company and plaintiff in the famous suit about a suit, Lindmoe vs. Snedderhorn; Bill Beck, already mentioned, bringing greetings from Mayor Wagner of New York without the Mayor's knowledge, and welcoming Roy warmly to New York society; Jud Sherrill, promising to teach him the finer points of gin rummy before he falls afoul of the Downtown Athletic Club sharpies; Hal Davis, purveyor of Myers drums which to our embarrassment we have just discovered are not der beatenkind louden boomers at all but der oilenstuffe holdenkind; Bill Cline, the Sun Drilling fashion plate and a sharp cookie in a Calcutta; and Phil Hauck, purchasing chief for The Texas Company, a scratch golfer—his handicap is 17 but we've seen him scratching under the dead leaves for something.

Lowdown On Higher Ups

Others with whom we discussed recent inconsequential developments at home and abroad were Bill Farrar, proprietor of the Far Best Corporation, a natural born comedian and juggler who could have made a fortune in vaudeville if he had only had some slight interest in money; Joe Taylor, the Squire of Rowayton, who probably knows more about New York and New Yorkers than Winter Wachell himself; Sid Hayes, of the Ball & Black interests, apparently fully recovered from his back operation and picking up his golf game where he left it to wrestle with sundry vertebral inadequacies; George Trembley, the toughest gin rummy player west of—well, some people say west of the Maine Coast; Charlie Schriber, the eternally youthful Jorgensen veep, as nice a form golfer as you are ever likely to see; Bill Conroy, National Aluminate Corporation beau brummel, an excellent narrator of dialect stories and good company either on or off the golf course; Bob Fluor, executive vice president of the Fluor Corporation, and owner of at least one horse that galloped in first at Del Mar a short time ago, carrying enough currency on its sof' nose to liquidate the national debt; Sam Patterson, the handsome Bankline higher up, a lad who is thoroughly conversant with the five multiples, so stay out of his domino reach; and John Robinson, one of the ruling chieftains of the Clan McLeod—he even likes usquebaugh with his oatmeal.

And Still They Come

On deck too for the festivities were Allen Dragge of the A. O. Smith upper crust, another of the Nineteener irresistibles; Jack Perrin, the collegiate appearing Towelsaver prexy, looking practically naked with no portable radio; Karl Kreiger, the Richfield production whiz, a stout contender in any kind of speculative exercise; John Fraser, popular member of the 7600, a nice guy whose popularity is easily understood; Ed Thatcher, an acquisitive Chevronite who would just as soon acquire your gin rummy pants as not; Bob Mangan, the husky Macmillan scion who always looks as if he had forgotten to take off his shoulder pads; Ralph "Tex" Clemons, just settling down to his new job as purchasing agent for Universal Consolidated Oil Company and very happy about the whole thing; Howard "Chappie" Chapman, M. E. Gray Company veep, who two years ago clipped a full eight hours off Monte Lindmoe's Los Angeles to Palm Springs record; Clayton Rose, Monarch Engineering Company principal, Petroleum Club activity arranger, and in all respects one of our better citizens; big, cap-

GEARS FOR INDUSTRY
THE Lufkin LINE
OIL FIELD PUMPING UNITS

HE NEVER KNEW A STRANGER

We would like to pay tribute to the memory of Walter Monroe, President and Editor of this publication. Not on an advertiser-publisher basis, but as friend, counsellor and pal of 20 years standing. Walter passed away in his sleep Monday, August 25th.

Walter's knowledge and understanding of people was a never-ending source of inspiration. He liked people, and invariably people liked him. Big people, little people, all kinds of people, and on the many occasions it was my privilege to be Walter's guest, it was always the same—whether banker or bus driver, oil man or oiler, if he wasn't already a friend, Walter didn't lose any time in creating a friendship.

A truly beloved individual himself, Walter loved his friends, who formed an ever widening circle. He liked to make interesting people known to each other and it gave him tremendous pleasure to do this.

Whatever Walter's faults (he would not pretend to be without them) if there was a good deed to be done, he was the one to do it. Nothing made him happier than to be helping someone out of difficulty, or at least trying. He had a gentleness with children, too, and loved to make the kids happy.

In the hearts and the minds of the many who shared in Walter's kindnesses and thoughtfulness, his loss brings forth a tide of realizations; suddenly, we are deprived of a great and lovable guy. But, we are forever grateful for having shared in the generous outpouring of his fine spirit.

Lufkin FOUNDRY
& MACHINE COMPANY

"Ed? Ben Johnson. Sorry for the late call, but we need three things. 200 8" circles cut from 3" J-20 Plate, three 2-inch 48" x 144" aluminum tooling plates, and I'd like to get one of your metallurgists out to look over a gear carburizing problem. Need that aluminum at 9 A.M. sharp. Can do?"

"Ben, you know you can depend on Jorgensen."

We can get that aluminum stock out for you easily. I'll have a metallurgist see you tomorrow on the carburizing problem. OK?"

Order processed in minutes through Jorgensen's scientifically designed order department. Ed, like his fellow "Inside Salesmen", is an expert with up-to-date technical knowledge that saves time and money for Jorgensen customers.

Ben Johnson's aluminum plates are being readied for loading in a few minutes. When speed counts, Jorgensen is dependable.

In the meantime, automatic multiple flame cutting machines have been set to begin cutting circles from J-20 Free-Cutting steel plate. A wide and complete variety of stock gives Jorgensen customers an edge in speed and service.

"Ben, I think we've licked this carburizing problem. By raising the quenching temperature we can increase the gear hardness. Shouldn't be any trouble now. Anything else come up, just call."

7 A. M. — Jorgensen truck is on its way, delivering Ben Johnson's plate order ahead of schedule.

for variety of stock, technical assistance and service...

call JORGENSEN first!

EARLE M. JORGENSEN CO.

STEEL

LOS ANGELES

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able Dave Bradbury, a recent proud acquisition of the Ladish Company which ought to be good for both of them; Jack Hurst, a good natured and altogether entertaining member of the Revere Copper Company; and last in what is probably a very incomplete roundup was Bud Russell, Republic Supply sales whiz, the intimate details of whose life we learned in the Superior Court jury snake pit down at Main & Temple. It was in toto a mighty impressive congregation that came to wish Roy Johnson all the best in his coming business adventure and as far as we are concerned, it couldn't have happened to a nicer guy!

Depression Recovery

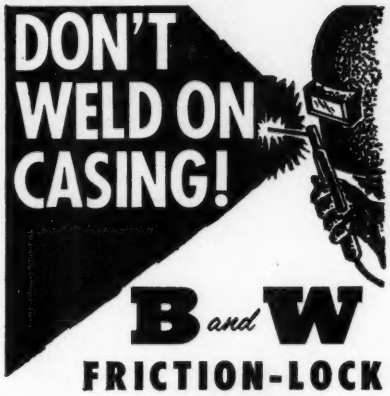
Ever since our return from vacation, we have been trying desperately to balance the books, or at least to make the red figures look a little paler. To this end we have been engaging in various species of uncertain enterprise, but have merely succeeded in coming closer and closer to absolute bankruptcy. Early in August we joined the Petroleum Club special to Del Mar where we thought sure our intimate knowledge of the horses would pay off generously in coin of the realm. But after applying the finest kind of mathematical deduction to the first three or four races without even catching a show we began to wonder if science was necessary. Closing our eyes tightly, we jabbed a pin at the Racing Form. The pin missed the entries for the next race altogether, stuck deep in our left knee, and the scream we emitted had enough vibrations in it to operate a sonic drill. Then along came Bill Thornbury with a "sure thing" in the Petroleum Club handicap. It won in a walk too at about eight to one, but Bill had failed to say "positively," so we were not on it. Incidentally, Tom Wallace, Dud Tower, Earl Hightower, and their respective ladies were in the winner's circle after this event to present the usual floral piece to the lucky horse. When the photo of this interesting ceremony was developed, Earl Hightower was nowhere in evidence and it is feared that he might have been lost behind Dudley Tower.

The Big Fight

Having failed miserably to recoup at the races, when shortly thereafter we were invited by Joe Gilliland to be his guest at the heavyweight championship bout between Floyd Patterson and Roy Harris, we accepted eagerly. This, we thought, is where the ship gets righted, for if there is any one subject on which we are really hep, it is legalized mayhem. But first, whom should we find also tagging along as Joe's guest but Paul Oswald Broxon, the Western Gulf advocate and gin rummy counsellor. We were all agreed that Patterson was a cinch, so there was no chance for a cleanup there. It was simply a matter of picking the finishing round and having a private pool. We drew five rounds apiece out of a hat and since the whole thing had resolved itself into a matter of luck, Mr. Broxon, the Monrovia magistrate won hands down, whereupon our family fortunes took another nose dive. After the fight we barked our shin on a concrete abutment and have since been stumbling around like a gangster in a tear bomb assault. When we finally got back to the hotel we were inveigled into a hand or two of gin and naturally were given the California coup de grace, or double whammy once more. If Roy Harris thinks he was hurt that night he should hear what happened to Snedderhorn. However we still think it was mighty nice of Joe to invite us to his little party.

New Enterprise

Pete Maxfield and three of his buddies, Matt Lohran, Wes Smith, and John Miovac, have jointly formed a new organization, Valve Services, Inc., with headquarters at 205 East Santa Fe Avenue, Fullerton. The function of this cooperative enterprise, as nearly as we can understand, is to service any kind of valve installation. The boys, all widely experienced in the business, believe that valve life is frequently shortened by inaccurate adjustments and improper lubrication, and that if spare parts and repair facilities were readily available, many a junking could be avoided. They hence have to offer to the trade a wide diversity of parts and accessories;



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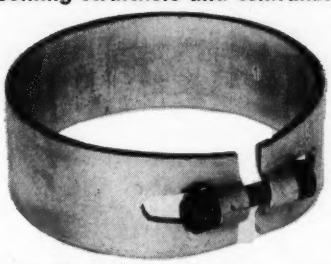

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machinery and equipment for the performance of all ordinary and some extraordinary repair jobs; a full line of special lubricants; and expert advice on all aspects of the valve business, including design and manufacture, operation and maintenance, and reconditioning and adaptation to unusual purposes. All of which, in view of rising price trends may be just what the doctor ordered. Anyway, this is another demonstration of free enterprise at work, and we wish Valve Services, Inc., and its principals, much success.

Oil Folk Have Narrow Escape

Jimmy Kelley sends us the Laguna Beach Post, dated August 21, showing a front page picture of Paul Sargent, Tulsa, Okla., and his sister-in-law, Mrs. Hugh L. Sargent of Los Angeles, being rescued from a small rocky promontory down thataway, just before the thing was completely submerged. Some other members of the party, which was on a fishing expedition, had to swim ashore to summon help, and Joe Shearer, the Laguna lifeguard, arrived in his patrol boat barely in time to prevent a catastrophe. The report says that neither Paul nor Polly (that's Mrs. Hugh L.) can swim and we'd like to make it known that if some kindly soul will undertake to teach Paul, we personally will be pleased to take Polly on as our No. 1. pupil. It is not generally known hereabouts but we were one of the first natators in this country to become proficient in the Australian crawl—that's the one where you go down under and crawl.

Bits Of This And That

Jim Withers announces that he is now representing Cameron Iron Works, Inc., Houston, Texas, and Wheatley Pump & Valve Manufacturers, Tulsa, Okla., in five Western states, for which purpose he is now occupying an office at 1442 Hayes Street, Long Beach. Bill has been affiliated with these two firms, first Cameron and then Wheatley, for the past ten years and prior to that time was in the valve business here on the west coast. The Al Stevensons are back home after four months of foraging about Europe and are right glad to be able to settle down once more to just ordinary living. Earl Daniels and his lovely bride, Bobbe, have returned from a honeymoon trip in the northwest. By Landis tells us that Cammie is recovering nicely from her recent illness which is good news. Curly Working has organized a sort of personal service for oil executives who might wish to visit field offices or otherwise acquaint themselves firsthand with what goes on in the oil world. Incidentally, Curly is sprinkling largesse about very liberally these days, in the form of avocados from his Yorba Linda orchard.

The Dew Of Killarney

Which reminds us that a few days ago we found on our desk a package from that confirmed globe girdler, Bill Roper. On examination, it appeared to have come direct from Ireland and to be a sizable sample of the dew of Killarney, captured some 10 years ago, and meantime matured probably by the "wee folk" themselves. In any case this potheen gives every indication of being tinctured with the elusive smoothness and smokiness that are sought so eagerly by ladies and gentlemen of impeccable taste and well educated palates.

The Final Word

And now, a few last minute items before we close up shop: The Nineteeners will hold their semi-annual Calcutta at Tamarisk out Palm Springs way on October 17 and 18. Henry Salvatori is receiving congratulations on his recent election to the Board of Directors of Transamerica Corporation. Warren Hillgreen is now manager of market promotion and development for Wilshire in which post he will be responsible also for advertising, public relations activities, and all sorts of related matters. Ben Anderson, the Milwhite Mud chap has joined forces with Bill Brooks in an "exterminate Snedderhorn" campaign. It seems that in a recent article we transferred Ben from Fort Worth to Dallas without authority. Some time prior to that, as our steady readers will remember, we even put Bill Brooks in a new job, thereby, as they say in the divorce courts submitting him to acute mental anguish and fearsome embarrassment. It all shows that the fungi that come with advancing age have a tendency to clutter up the thinking mechanism, if any. Our profound apologies to Ben and henceforth we shall try to emulate Joe Friday and stick to the facts. And by way of a concluding word we are sorry to have missed that dapper chap from San Antonio, Jerry O'Brien, Monterey vice president, who dropped by the office to say hello and found us out on some piffling errand. Cheerio!

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Nomads Fall Party

The annual informal dance of the Los Angeles Chapter of Nomads will be held at the Long Beach Country Club, October 17th. This affair, for Nomads and their intimate friends, will start off with a cocktail hour, followed by dinner and dancing. Those who do not prefer to dance will play cards. Music will be by the Jimmy Talbert band. Arrangements for the party were made by Tom Ashe of Globe Oil Tools Company, program chairman. President is Earl Daniels of Hydril Company.

Field Development

Pacific Coast and "4" Corners

LOS ANGELES BASIN

San Gabriel Wildcat For Humble

Humble Oil and Refining Company has announced a location for South San Gabriel Unit One No. 1 within the San Gabriel City limits in Section 24-1s-12w. The test is scheduled for 12,000 feet and is located 150 feet north and 1250 feet east from the west one-quarter corner of Section 24, immediately south of the San Bernardino Freeway and approximately three miles north of the Montebello Field.

Echo Park Test To Start

Burke and Bauman are starting to prepare the location for their test in Section 20-1s-13w near the intersection of Glendale Boulevard and Colton Street. This will be a 6000 foot test and Fred Johnson Drilling Company will do the drilling.

Los Angeles-La Cienega Test

Morgan Brown Incorporated is drilling below 9475 feet on his Oil District U-6 Well No. 1 in Section 20-1s-14w. The test, between Third Street and Beverly Boulevard just west of La Cienega, was shut down for a few days for a check of the core data.

Los Angeles Country Club

Hudson Gas and Oil Corporation has announced a second test on the Los Angeles Country Club property. Their Los Angeles Country Club No. 2 will be drilled approximately 975 feet north and 908 feet west from the southeast corner of Section 23-1s-15w, or five feet north and eight feet west of their No. 1 well, now drilling below 9250 feet.

Rancho Golf Club Test

Signal Oil and Gas Company's Signal-Richfield-Rancho No. 1 in Section 36-1s-15w continues to drill ahead at 12,217 feet. The test has 7-inch casing cemented at 9830 feet. The Signal-Richfield-Community No. 1 well, near the intersection of Pico Boulevard and Peg Place on Section 25-1s-15w, is still standing suspended at a depth of 8816 feet. Although the well is ready for testing, no test has been made. 7-inch casing is cemented at 7390 feet and a liner has been cemented in the hole. The Signal - Richfield - Hillcrest No. 1, with a surface location approximately ten feet south of the Community No. 1 well, has been spudded and is drilling below 6075 feet.

Atlas Purchases Coyote Wells

Atlas Oil of California has purchased the Mayfield Oil Company property in the East Coyote Field, and plans to recondition and possibly redrill some of the wells. There are eighteen wells on the property, of which fifteen are producers.

SAN JOAQUIN VALLEY

San Benito County Completion for Shell

Shell Oil Company's F. & I. No. 76-29 on Section 29-16s-11e was completed flowing 112 barrels per day cutting 28 per cent and after producing one day stopped flowing and was placed on the pump for an initial production of 179 barrels per day, cutting 16 per cent, pumping against a 20/64-inch bean with 130/220# pressures and 44 MCF/gas. The well was drilled to 3750 feet and plugged back to 3076 feet for completion. The 5½-inch casing is cemented at 3125 feet, with the following perforations open to production—3019-3040, 3011-3003, 2991-2978, 2971-2966, 2960-2254, 2949-2934, 2899-2887 and 2817-2809 feet.

Hancock Abandons Tehama County Test

Hancock Oil Company has plugged and abandoned its Hancock - Shell - Anchordoguy No. 1 well in Section 14-26n-3w, after drilling to 7010 feet. An electric log was run before abandoning and no showings of any consequence were logged. The test was located 1800 feet north and 2050 feet west from the southeast corner of Section 14-26n-3w.

Cuyama Test Abandoned

R. K. Cross has abandoned Grayson-Owen No. 38-19 in Section 19-31s-9e, after drilling to 3062 feet. The well, located in the extreme northwest part of Cuyama Valley, was bottomed in Granite.

Mountain View Test For Kern Oil

Kern Oil California Limited is drilling below 4965 feet on their Winters No. 35 well located 330 feet south and 990 feet west from the center of Section 13-30s-28e. The test is a northwest offset to their new pool discovery, Winters No. 46 which was completed flowing 75 barrels per day of clean oil. In the same area. The Termo Company's deep test, Lamont-Sunray No. 53-X in Section 12-31s-28e, is drilling at 10,100 feet. The test is scheduled to go to 13,000 feet.

San Benito County Test Abandoned

F. R. Farrell and A. R. McGuire have abandoned their Well No. 7 on Section 28-16s-12e at a total depth of 1250 feet. An electric log was run before abandoning.

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Cottonwood Test Abandoned

Two miles southeast of the Ant Hill pool, Western Petroleum Company has abandoned its Westpet-Intex-Featherstone No. 1 well on Section 24-29s-29e after drilling to 3500 feet. This was a Vedder Sand test.

Gosford Area Development

Hancock Oil Company is grading location for K.C.L. No. 54-13 located 330 feet north and 330 feet east from the center of Section 13-30s-26e on the northeast flank of the field. Getty Oil Company's Campbell No. 86-X well in Section 24-30s-26e has been abandoned at a total depth of 10,808 feet. Sidewall samples were taken and logs run before abandoning. Union Oil Company's KCL No. 65-23 in Section 23-20s-26e is drilling below 9800 feet. Another well drilling in the area is The Superior Oil Company's Pensinger No. 32-24 in Section 24-30s-26e, a previously abandoned well, now drilling ahead below 10,613 feet.

Completion for Highway Area-Tejon Field

Reserve Oil and Gas Company has completed another good producer with the completion of well W-T No. 308-18 on Section 18-11n-19w. On a test using a 20/64-inch bean, the well flowed at a 2700 barrel per day rate and through a 30/64-inch bean the flow was estimated at 5000 barrels per day. The bean was reduced to 13/64-inch and production was 660 barrels per day of 34.2 gravity clean oil, with well head pressure at 2300 pounds. Total depth of the well is 10,970 feet with a bottom hole plug at 10,754 feet. The 7-inch casing is cemented at 9898 feet. Reserve's well B-W No. 348-18 on Section 18-11n-19w, is drilling and coring below 11,750 feet.

COASTAL AREA

Monterey County Wildcat Test

Barron Kidd of Dallas, Texas, is preparing to spud Trescony No. 2, a wildcat test located 780 feet north and 3500 feet east from the southwest corner of Section 31-21s-9e. The location falls about ten miles northwest of King City and will go to approximately 3500 feet.

Gaviata Test Spudded

L. E. Broadhurst of Phoenix, Arizona, is drilling below 800 feet on his Mercedes-Fox No. 1 well in Section 35-5n-32w in Santa Barbara County. Footage location of the well is 2300 feet south and 1200 feet west from the northeast corner of Section 35. William J. Stava of Arcadia, Calif., is both the agent and drilling contractor for the test.

Ventura Avenue Test Fishes

Tidewater Oil Company's deep test, Lloyd No. 185 in Section 26-3n-23w, is trying to pull stuck drill pipe. The hole was drilled to 15,074 feet and developed the fishing job after 7-inch casing was cemented on bottom at 15,074 feet. Tidewater's V. L. & W. No. 146 well is making hole ahead at 12,692 feet.

Springville Dome Well Abandons

Franco Western Oil Company's Shell-Standard-del Tio No. 1 in Section 21-2n-21w has been abandoned after drilling to 7022 feet. An electric log was run but no tests were made. The location of the test is 2610 feet north and 515 feet east from the southeast corner of Section 21, approximately two and one-half miles northeast of the Oxnard field.

San Luis Obispo County Wildcat

Harrell Drilling Company is drilling Harrell Drilling-Southern California Petroleum well No. 1, a 6000 foot wildcat test located 507 feet north and 207 feet west from the southeast corner of Section 25-32s-19e, near Taylor Canyon. Rod K. Cross is the geologist and Green & Dreblow has the drilling contract.

Arroyo Grande Test to Start

Town and Country Oil Company is getting ready to commence drilling on Mary No. 1, a wildcat test located 1600 feet north and 2000 feet west from the southeast corner of Section 13-32s-13e.

Monterey County Wildcat Test

W. Frank Jones of Bakersfield, Calif., is preparing to spud M-A No. 1, a wildcat test located 2450 feet south and 500 feet east from the northwest corner of Section 2-22s-9e, in the Parris Valley area, four miles northwest of the San Ardo Field.

Half Moon Bay Area Test

John M. Young is grading location for shallow wildcat test, Well No. 73, located 1650 feet south and 1650 west from the northeast corner of Section 21-6s-5w, approximately seven miles northwest of the La Honda field in San Mateo County.

Santa Barbara County Offshore Well

Approximately three-quarters of a mile offshore in projected Section 2-4n-32w near Gaviota, Standard Oil Company in conjunction with Humble Oil & Refining Company, will drill Standard-Humble-Gaviota State No. 1, located approximately 2250 feet south and 950 feet west from the northeast corner of projected Section 2.

NORTHERN CALIFORNIA

Kadane Abandons Solano County Test

G. E. Kadane & Sons have abandoned their second test in the Kirby Hills area. Their latest venture, Standard-Fontana Farms No. 6 in Section 9-3n-1w, was drilled to 7010 feet, ran an electric log and was plugged and abandoned. The well was located four miles south of the Kirby Hills gas field. Field.

Butte County Gas Test

Delta Management Corporation and Thomas J. Fitzgerald, Operator, have awarded a drilling contract to Sills Drilling Company for Brady No. 1, a pinch-out test located 105 feet south and 105 feet east from the north one-quarter corner of Section 20-17n-1e. This will be a 3700 foot test located midway between the Compton Landing and the Wild Goose Gas fields. Tom Fitzgerald is a Consulting Geologist and Petroleum Engineer with offices in Bakersfield.

Arbuckle Wildcat For Texas Operator

William H. Hudson, A Texas operator with offices in Dallas, Texas, has announced a location for L. C. Hursch No. 1, a wildcat gas test five miles northwest of the Arbuckle Gas Field. Location of the test is 1320 feet north and 1320 feet east from the southwest corner of Section 6-14n-2w.

Beehive Bend Completion For Kenson Corp.

The Kenson Corporation of Texas completed Section 60 Unit well No. 2 in Section 4-19n-2w in the Beehive Bend field in Glenn County. Initial flow was 6080 MCF gas through a 38/64-inch bean from the perforated interval 3033 to 3028 feet and 3030 to 3034 feet. Total depth of the well is 5953 feet but finding the lower part of the hole non-productive, 5½-inch casing was cemented at 3144 feet and perforated for completion in the upper part of the hole. The well was drilled on acreage obtained on a farm-out from the General Petroleum Corporation.

Deep Test For Sacramento County

Brazos Oil & Gas Company has staked location for a deep pool test in the River Island area. Its S. R. Unit well No. 1 is slated to go to 11,000 feet and is located 1500 feet north and 1300 feet east from the southwest corner of Section 17-4n-4e.

Vacaville Test Abandons

McCulloch Oil Exploration Co. of Calif. has abandoned its McCulloch-Macson-Uhl No. 1 well in Section 32-6n-1w near Vacaville in Solano County. Located five miles northwest of the Potrero Hills Gas field, the test reached a total depth of 5354 feet before giving up.

Tehama County Gas Test Abandoned

Humble Oil & Refining Company's Arthur M. Hall No. 1 in the Orland area has been abandoned at a total depth of 2866 feet. The test was located 923 feet south and 1330 feet east from the northwest corner of Section 21-23n-4w, and approximately eight miles southwest of the South Dome Gas Field.

Three South Dome Gas Tests

In the South Dome Gas Field, Buttes Gas & Oil Company has set up a drilling program for three new tests, south of production. Corning Community No. 8-D, one mile due south of production, is located 2300 feet south and 340 feet east from the northwest corner of Section 6-23n-2w. Corning Community No. 8-E, 1½ miles southeast of production, is located 1320 feet north and 1320 feet west from the southeast corner of Section 6-23n-2w, and Saldubehere No. A-3, one-half mile south-southwest of production, is located 340 feet north and 340 feet west from the southeast corner of Section 36-24n-3w.

Sonoma County Wildcat Test

L. H. Scott and John Hendrickson are ready to spud their Unit One well No. 1 located 1980 feet south and 687 feet west from the center of Section 21-6n-8e. This is a 3000 foot test and will be drilled by the Precision Drilling Company. Arnold B. Hendrickson is the petroleum engineer.

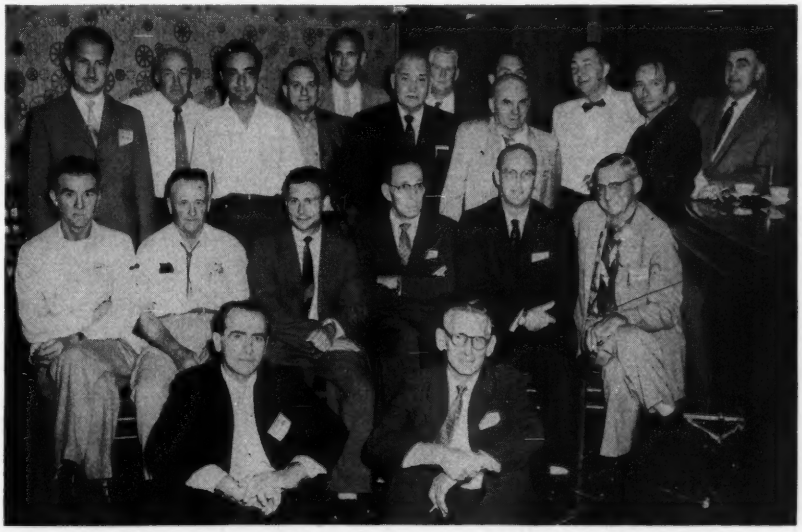
OTHER STATES

Clark County Test for Nevada

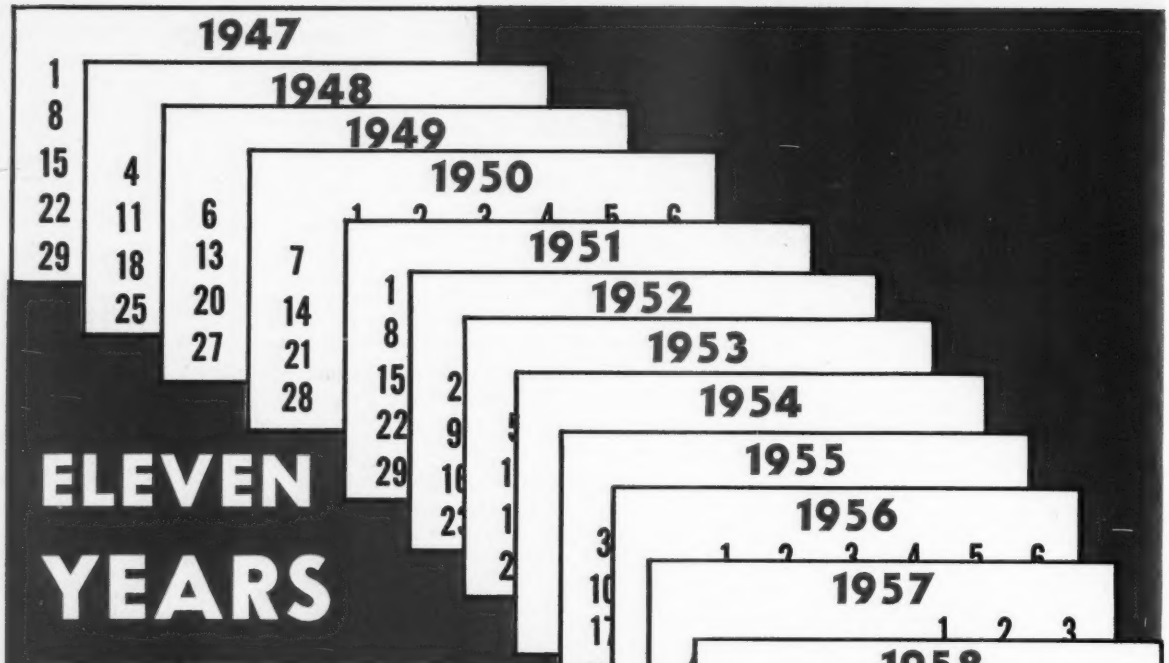
Colmarran Oil Products Company, Inc., is preparing location and expects to spud within the next week on its 6000 foot test approximately ten miles southwest of Las Vegas, Nevada. The test, located in the northwest quarter of Section 27-22s-60e, is to be drilled by the L. H. Scott Drilling Company.

Petrochemical Udex Unit At Richfield Refinery

A 3,500 B/SD Udex unit has gone on stream at the Richfield Oil Corporation refinery at Wilmington, California. This process unit was licensed, designed and engineered by Universal Oil Products Company of Des Plaines, Ill. It is separating 1,465 B/SD of high-purity benzene for chemical manufacture and 126 B/SD of nitration grade toluene. The unit is processing a depentanized feed stock derived from catalytically-reformed California naphtha.



International guests at the August 13, 1958 meeting of the Los Angeles Chapter of Nomads. Left to right (standing) Georges Caspar of LUCEAT from France; Harold Karnes of Santa Fe Drilling from Ghana; Andre Casassus of CFPA from Algeria; Wm. Pennington of Santa Fe Drilling from Iran; Virgil Davis of D & E from Brazil; Marshall C. Graham of Mosul Pet. Co. from Iraq; Richard C. Harris of Union Oil Co. from Costa Rica; Ralph H. McKee of Drilexco from Brazil; C. R. Ball, Jr. of Richfield going to Peru; E. D. Strong of Santa Fe from Kuwait; J. P. Munier-Jolain of Institut Francais du Petrole from France; Sid Broom of I.P.C. from Iraq; (middle row) A. M. Carmichael of Santa Fe from Iran; W. C. Lance of Santa Fe from Burma; Guy Faure of CFPA from Algeria; Dave Harris going to Alaska for his own company; W. M. Bartley of Santa Fe from Peru; Clyde C. Cantin of Bolsa Chica Oil Co. to Turkey; (bottom row) Walt Munger of Santa Fe from Kuwait; Karl Jauman, ex-Santa Fe from Kuwait.



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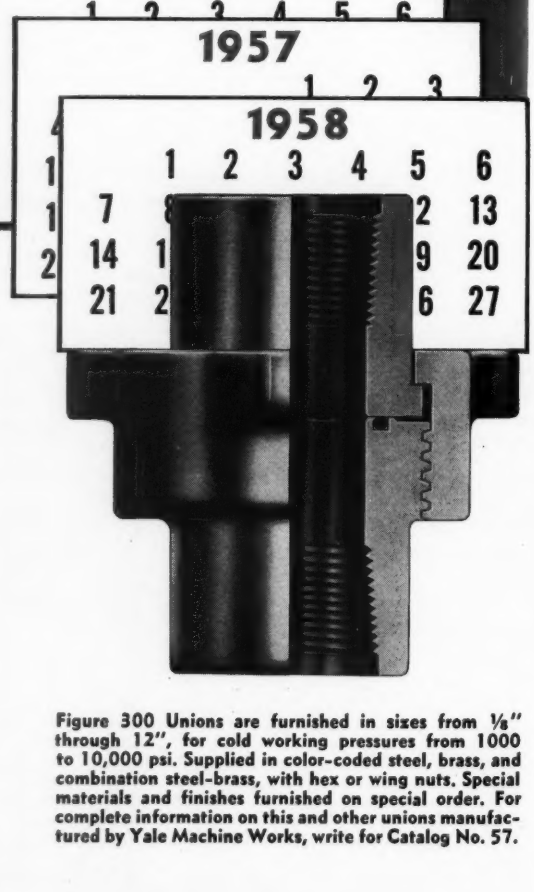

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Three Boards Meet At AIME Conference

When the American Institute of Mining, Metallurgical, and Petroleum Engineers holds its Rocky Mountain Minerals Conference in Salt Lake City Sept. 17-19, 1958, the Board of Directors will depart from its custom of having its meetings in the headquarters city, New York, or in the city in which the annual meeting is held.

The Salt Lake City gathering will not be an annual meeting of AIME. But it will be a highly important event with many major technical papers. Its designation for the AIME Board meeting September 19, is further recognition of the West's large importance in Institute affairs. In addition to the AIME Board, there will be meetings of the Board of the Society of Mining Engineers, on September 16, and of The Metallurgical Society, September 18. These are constituent organizations of AIME. The Conference will be sponsored by the Utah Section of AIME.

At the AIME Board meeting, September 19, the election of new officers and directors, to become effective at the annual meeting in San Francisco next February, will be recorded. Dr. Augustus B. Kinzel, of New York, Vice-President of Union Carbide Corp., is currently President. He will be a Conference speaker.

Howard C. Pyle, of Los Angeles, Vice-President of AIME, will be guest speaker at the conference luncheon September 18. Mr. Pyle who is president of Monterey Oil Company, is slated to head AIME in 1959.

San Joaquin Valley Oil Industry Safety Conference

On Tuesday and Wednesday, September 23-24, the 1958 San Joaquin Valley Oil Industry Safety Conference will be held at the El Tejon Hotel, Bakersfield. 425 operating foremen from 50 companies will concentrate attention on the safety attitudes of individual workers—that intangible, complex sphere where many industrial accidents are made or averted.

The morning general session will feature a talk by W. S. Davidson, Tidewater Oil Company, on the theme, "Safety Succeeds Between The Ears." The luncheon general speaker, Vernon L. Taylor, Standard Oil Company of California—Western Operations, Inc., will talk on "Leadership and Safety." Both men are well known in the Valley. Their messages can be counted on to penetrate.

After the morning and luncheon general sessions six section meetings will convene. Each will encompass discussions of current safety problems in the various branches of the Industry. These sessions will be repeated morning and afternoon so all conferees will participate in two complete section programs. It is important in pre-registering that each man indicates the morning and afternoon sections he will attend.

Here are some or the problems which will be discussed: "A Practical Safety Program Makes The Difference Between Profit and Loss"; "Auxiliary Wire Line Accidents"; "Be Your Private Eye"; "Magnetic Inspection to Detect Flaws in Production Equipment"; "Let's Eliminate Destructive Air Line Explosions!"; "Safe Welding on Gas Filled Pipe Lines".

A booklet outlining the conference and giving the program can be obtained from Western Oil and Gas Association, 510 West 6th St., Los Angeles 14, California.

CNGA Fall Meeting

Preliminary plans have been completed for the program of the California Natural Gasoline Association's Thirty-Third Annual Fall Meeting. R. C. Gentry, Standard Oil Company of California, general chairman, announced the meeting will be held October 9 and 10, 1958 at the Huntington-Sheraton Hotel in Pasadena.

Highlighting this program will be a computer symposium and exhibit under the chairmanship of Ira C. Bechtold, consultant. This symposium is intended to be an educational program to meet the needs of the general membership rather than the computer experts of the organization. The Associ-

DRESSER INDUSTRIES GET HEAD START FOR IPE

Company officials of the Dresser Industries are shown here completing final plans for their new building at the International Petroleum Exposition grounds. The Exposition will be held in Tulsa May 14-23, 1959. All of the Dresser companies will be housed in one of the largest IPE display areas covering more than 22,000 sq. ft. of space. Standing L. to R., Don Curtis, Don Curtis Associates, Houston, Texas; D. L. McGill, Advertising Manager, The Guiberson Corporation, Dallas, Texas; Steve Miranda, Director of Public Relations and Advertising, Dresser Industries, Inc., Dallas, Texas, and Ed Beauchamp, Jr., Advertising Manager, Lane-Wells Co., Houston, Texas. Seated are Pat Irwin, Sales Manager, Dresser Ideco Co., Columbus, Ohio and Walter Ender, Design Consultant, Dallas, Texas. All Companies are urged to start early at the IPE to avoid the last minute rush.

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Grant maintains the largest and most complete tool stocks throughout active oil territory, available day or night. That's why it's easy for you to have the tools you want—when you want them. *Specify Grant!*

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ation has been fortunate in obtaining the cooperation of computer manufacturers to exhibit their equipment in actual operation. Since most people in the industry are encountering computer application either in design or plant operation, this feature of the program should be outstanding.

F. H. Lacy, Jr., Honolulu Oil Corporation, chairman of forums, has scheduled discussions on new and timely subjects in the fields of "Testing and Engineering Developments," "Modern Gasoline Plants," "Plants and Processes," and "Engines and Compressors." It is expected that over a thousand men will register their attendance at these meetings.

The general session on Friday afternoon will hear two outstanding speakers. Dr. Joseph Kaplan, Department of Physics at UCLA and Chairman United States National Committee For the International Geophysical Year, will be making his first public address since returning from Russia. Mr. W. M. Jacobs, Senior Vice - President, Pacific Lighting Gas Supply Company, will speak on "The Role of Natural Gas in California's Future Energy Requirements."

C.N.G.A. President, H. J. Maxwell, Standard Oil Company of California, will welcome the registrants and preside over the two day meeting.

AIME Petroleum Engineers Fall Meeting

The Annual Fall Meeting of the Society of Petroleum Engineers of AIME will be held October 16-17, 1958 at the Biltmore Hotel, Los Angeles according to this year's General Chairman S. A. Patterson, Bankline Oil Company. Participating in the meeting are the Los Angeles Basin Section, San Joaquin Valley, and Coastal Sections.

During the two-day meet, 24 papers will be presented. Thursday, October 16, there will be an all day session on Reservoir Engineering in one room, and in another there will be a session on Petroleum Economics in the morning and a Production Session in the afternoon. Friday morning there will be a Drilling and Logging Session and in the afternoon an Oil Recovery Processes Session. The Annual Dinner Dance will be held Thursday evening,

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*Results of tests conducted by major pump manufacturer furnished on request.

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October 16, and Annual Luncheon on Friday.

With Patterson on the Annual Meeting Committee are the following chairmen: W. H. Bourne, Amerada Petroleum Corporation (Program); M. C. Turner, Monterey Oil Company (Exhibits); Hal Acres, Sunray-Midcontinent Oil Company (Dance); Richard Parsons, California Research Corporation (Arrangements).

API Vocational Training In California Schools

Harold Keans, chairman of the API Pacific Coast District Committee on Vocational Training, has announced that courses in various phases of the oil industry have been scheduled for the fall semester and will be presented by schools in Long Beach, Fullerton, Norwalk, Ventura, Orcutt, Coalinga, Bakersfield and Taft, beginning with the week of September 8.

Persons interested in attending the classes being offered as part of the committee's vocational training program may contact the section chairman for details about the courses and locations of the schools. Chairmen are: R. L. Andrews, Standard Oil Co., La Habra-Los Angeles Basin Area; Jack A. Biren, Continental Oil Co., Ventura-Coastal Area - Ventura; George Paulus, Union Oil Co., Orcutt-Santa Maria Area; Don Craggs, Union Oil Co., Coalinga-Kettleman Area; Eugene E. Nichols, P. O. Box 147, Bakersfield-Bakersfield Area; and Jack Rogers, Honolulu Oil Corp., Taft-Taft Area.

There Is Absolutely NO CARROT in the new WELEX

SUPER DYNA-JET*

This is no idle claim. *There is only one shaped charge perforator available in the oil field that absolutely will not produce a carrot.* That charge is the new Welex Super Dyna-Jet. Utilizing many of the principles of the original Dyna-Jet perforator, which introduced a new concept of perforating, the Super Dyna-Jet is another forward step by the company that brought you the first shaped charge perforator.

Added to the impossibility of carrot formation by the Welex Super Dyna-Jet is the advantage of greatly increased penetration, large entrance hole, greater hole volume and tremendously increased flow index.

The Welex Super Dyna-Jet was created for one purpose: to completely eliminate the possibility of forming a carrot which could plug a perforation and retard flow. In addition to being a completely carrot-free perforator, the Welex Super Dyna-Jet produces less burr than is possible with other shaped charges. The average burr height after perforating with the Super Dyna-Jet is 0.03", virtually no burr at all.

Performance-wise, the Welex Super-Dyna Jet leads the field by a wide margin. Shooting into 16-day neat cement faced with a mild steel plate and through one-half inch of water, the following performance data was obtained:

Penetration Depth	13.28"
Entrance Hole	0.48"
Hole Volume	30.00cc
Burr Height	0.03"

Available in 3⅜", 4" and 5" hollow carrier guns, the Welex Super-Dyna Jet means more production every time.

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New Coast Pipe Line Is Completely Automatic

The Four Corners pipe line which began delivering crude oil from the San Juan and Paradox basin in southeastern Utah and northwestern New Mexico to the refinery area in Los Angeles last April, is designed to be completely automatic, it was reported at the Petroleum Industry Conference sponsored by the American Institute of Electrical Engineers.

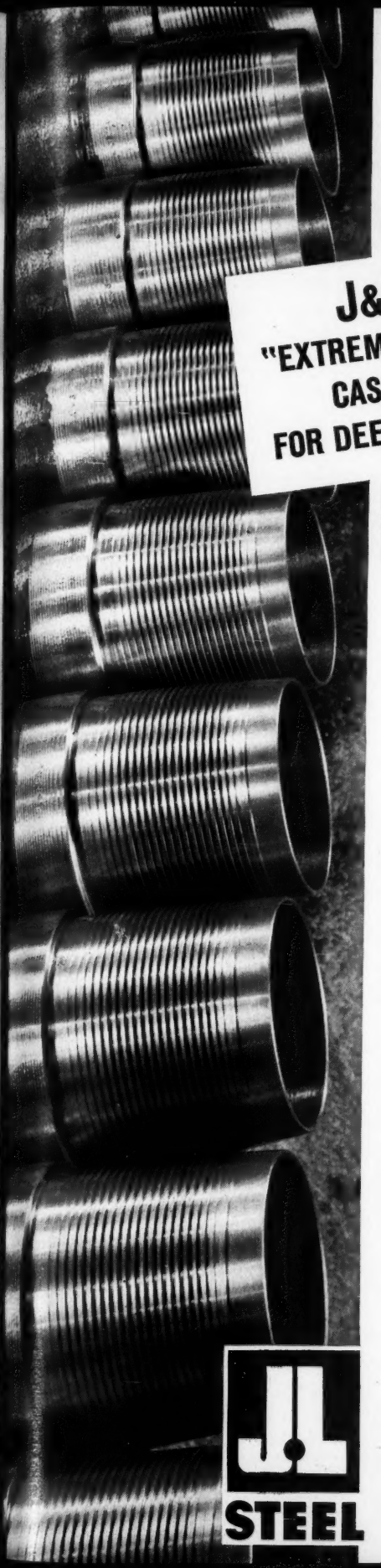
A description of the pipe line's electrical features was given by J. J. Sonnier and H. N. Siler, of the Shell Pipe Line Corp. which designed and operates the pipe line for Continental Pipe Line Company, Gulf Oil Company, Richfield Oil Corporation, Shell Oil Company, Standard Oil Company of California and the Superior Oil Company.

Commercially supplied electric power is used for the control schemes, supervisory control, telemetering and communications on the pipe line, they reported. The pipe line is designed for complete unattended operation, they said, adding that "The main line pump stations, pressure reducing stations, delivery valve stations, booster pumps, and tank filling and suction valves are designed for remote operation. Most of the feeder stations are equipped for automatic custody transfer operation. The design of the communications and control features incorporated into the system provides for safe and reliable operation of the pipe line from the Dispatcher's office in the Terminal Building located at the western terminus of the line."

Macco in Alaska

Macco Corporation of Paramount, California, has opened a permanent office at Seward, Alaska. The new Macco Alaska facility will supply Alaskan oilwell drillers with necessary supplies of drilling mud materials, according to John M. Robinson, Vice-President and Manager of the company's Oilfield Divisions.

Macco drilling mud materials are already available at the warehouses of the Seward Fish and Cold Storage Company, San Juan Dock, Seward, Alaska. Mr. Tom Reilly, President of the above company, has been appointed Macco's exclusive distributor for the area.



J&L "EXTREME LINE" CASING FOR DEEP WELLS

High strength J&L Extreme Line casing was used as bottom-hole liner in this Shell Oil well in Louisiana.

J&L Extreme Line Casing provides leak-resistant bottom-hole liner for Shell Oil well

Over 1500 feet of 7-inch J&L Extreme Line casing were used as bottom-hole liner between 10,788 and 12,288 feet in this Shell Oil well in the Humphreys field near Gibson, Louisiana. "Extreme Line casing was used for its increased clearance and high leak resistance," said Shell Oil drilling superintendent.

Some important distinctive advantages to be found in J&L's superior-quality Extreme Line casing are:

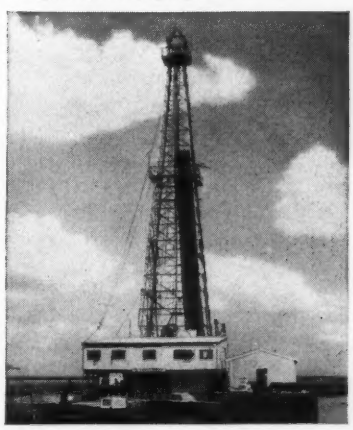
HIGH JOINT STRENGTH. Modified Acme-type threads, with a steep flank angle, assure strong interlock. Integral joint eliminates coupling.

POSITIVE LEAK RESISTANCE. Accurately machined metal-to-metal surfaces provide a positive seal.

INCREASED CLEARANCE. Reduced outside diameter of joints provides necessary clearance in a tight hole.

HIGH RUNNING SPEED. Running rates are up to 50% faster. Broad, flat-crested threads guide pin end quickly into engagement without cross-threading. Joints are made up with two to four jerks after spinning.

Investigate the unique features of J&L's Extreme Line casing, available in J-55, N-80 and P-110 grades. Ask your J&L distributor or write to Jones & Laughlin, 3 Gateway Center, Pittsburgh 30, Pennsylvania.



This L. D. Riggs No. A-2 well was drilled to 12,300 feet with a large steam drilling rig. 1500 feet of 7-inch 29# P-110 Extreme Line casing was used. Shell also used 2987 feet of 13⅜-inch and 7089 feet of 9⅝-inch N-80 J&L casing in this well.

J&L STEEL

Jones & Laughlin Steel Corporation

PITTSBURGH, PENNSYLVANIA

Personalities IN THE NEWS

A series of promotions and transfers in the sales organization of Reed Roller Bit Company was announced August 29 by H. B. Book, Vice President, Sales, at Houston, Texas.

B. F. Hanly, Division Manager of the Rocky Mountain Division, is vacating that post for reasons of health. Hanly will move to Denver, Colorado, to take the position of Area Representative in Denver.

R. C. Gann, former Division Manager of the Oklahoma sales division, is transferring to Casper, Wyoming, as Division Manager of the Rocky Mountain Division.

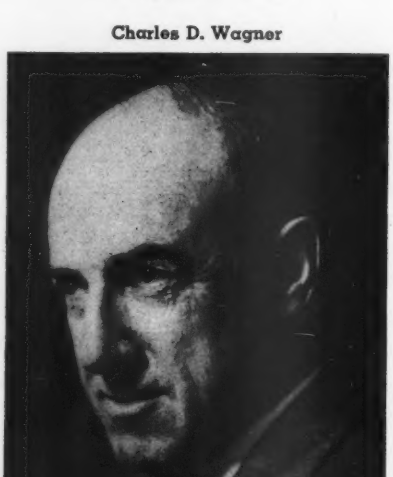
Denis B. Kemball-Cook, executive vice president in charge of exploration and production for Shell Oil Company, was elected to the board of directors of his firm. He replaces Alan J. Galloway who is retiring after 32 years with Shell.

Effective September 1, 1958, Jerry L. Harris purchased Francis I. Kee's interest in the Kee & Simpson Drilling Company. Jerry L. Harris and Clyde R. Simpson plan to continue with the same equipment under the name of Simpson & Harris Drilling Company. The office of the new company is at the same address — 2975 Wilshire Boulevard, Room 625, Los Angeles 5, California. Telephone DUnkirk 7-1311.

Louis J. Brunel, vice-president and general manager of Bishop Oil Company, was elected a director of the company at a recent meeting of the board of directors. He fills a vacancy on the board created by the resignation of Prentiss Moore of Los Angeles. He has been identified with the progress of Bishop Oil Company since 1926, and has been vice-president and general manager since 1927. He is president of Bishop's Canadian subsidiary, Canadian Bishop Oil, Ltd., and a director of Calaveras Cement Company.

In Memoriam

Charles D. Wagner



Charles D. Wagner, former President of Wagner-Morehouse, Inc., died early Tuesday Morning, August 26, 1958. He was 71 years old last April. Although he had been in ill health for almost three years, his many friends will feel the loss of his passing.

Charlie Wagner was well known in the oil industry, becoming associated with Fairbanks - Morse & Company prior to 1920. His next association was with Berger and Carter Co., during which time he became sales manager of the Los Angeles Branch.

In 1921, Mr. Wagner joined Axelson Machine Co., where he became General Sales Manager. In 1926 he became associated with the late E. M. Smith, Edwin W. Goeser, W. A. Trout and J. S. A. Smith, in forming Emsco Derrick & Equipment Company. During the ten years he was with Emsco, Mr. Wagner held the position of Vice-President and Manager of Sales.

In July, 1936, Charlie Wagner organized the Wagner Sales and Service Company. The following October he was joined by Harry C. Morehouse at which time Wagner-Morehouse, Inc., was formed. He was President of Wagner-Morehouse, Inc. until he retired October 15, 1956.

Charlie Wagner was a member of the Western Oil and Gas Association Wild Cats for many years and also took an active interest in the Petroleum Production Pioneers. He is survived by his wife, Lovina Wagner, two daughters, Juanita Shaffer and Diane Hillman, and a sister Margaret Larson.

Daniel Steen Fletcher

Daniel Steen Fletcher, pioneer oil distributor, died August 28 in Los Angeles following a long illness. Born January 9, 1893, at Mountain Home, Idaho, Mr. Fletcher organized the Fletcher Oil Company in 1915. In 1935 he moved to Los Angeles where he supervised the construction of the modern refinery the company owns and operates at Wilmington. Several years ago he negotiated the sale of the company's Idaho holdings to the Sinclair Oil Corporation but retained the properties in other states. Mr. Fletcher specialized in the refinery and oil buying end of the business.

19 GASO PUMPS FOR THE Four Corners Pipe Line

The pumps that move the crude from the gathering lines to the main line of the fifty-million dollar Four Corners Pipe Line are GASO Pumps. In all, Gaso has supplied the line with 19 pumps in models to meet the individual requirements at the feeder stations and in the Kingman and Corona pressure reducer stations. Typical feeder station installations:

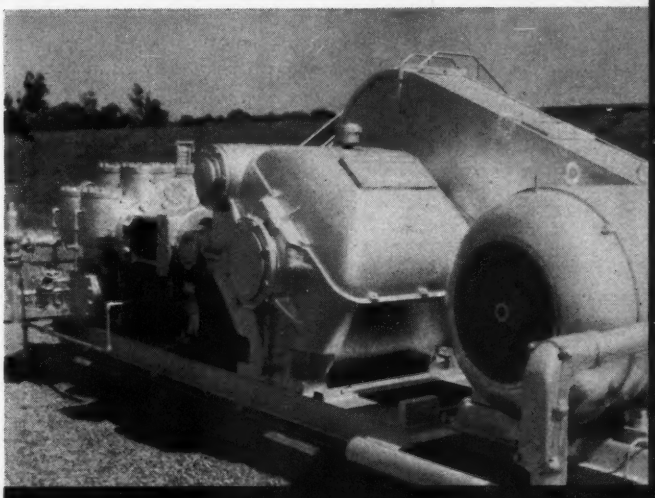
At Aneth: Figure 2652 Gaso Duplex Piston Power Pump (4″ to 7¼″ x 12″).

At Arrowhead, Desert Creek, Rice, Little Mesa, Bluff, and East San Juan: Figure 1849 Gaso Duplex Piston Power Pumps (2½″ to 4″ x 10″).

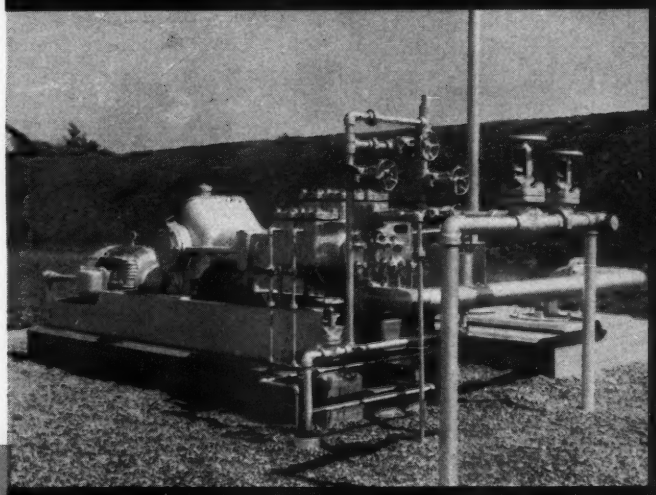
At Ratherford and White Mesa: Figure 1550 Gaso Duplex Piston Power Pumps (2½″ to 5″ x 10″).

At McElmo Creek, Ratherford, San Juan, White Mesa, West Aneth and East Aneth: Figure 1753 Gaso Duplex Piston Power Pumps (4″ to 7½″ x 10″).

The Gaso line includes many types and sizes of duplex piston and triplex plunger pumps with moly-iron, steel, and bronze fluid ends for handling crude oils, petroleum products, and salt waters under a wide range of capacity and pressure requirements. May we send you our latest catalog, just released?



Gaso Fig. 2652 Pump handling approximately 900 barrels per hour at the Corona pressure reducing station of the Four Corners Pipe Line. Powered by a 200 HP electric motor, operating at 78 RPM



Another Four Corners installation: Fig. 2249 Gaso Duplex Piston Power Pump operated by 15 HP electric motor

DISTRIBUTORS

Farmington, N. M.—Gaso Pump & Burner Mfg. Co.
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SONIC PUMP FOR SHALLOW OR MEDIUM DEPTH WELLS

Another decided jump into the future and away from the conventional is accomplished by a revolutionary new sonic oil well pump which after some six years of shop and field testing is now ready for the market. This device, introduced by Johnston Testers a subsidiary of Schlumberger, Ltd., can be installed and operated at attractive cost with a minimum of maintenance attention. Experience indicates that it can be used effectively for the lifting of anything from gas to 10 API gravity oil from shallow or medium depth wells, and is not adversely affected by comparatively high sand depositions.

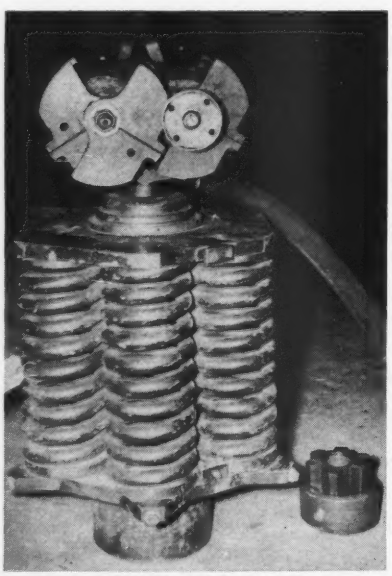
The complete assembly consists of the tubing string with a sufficient number of check valves interposed strategically in the couplings; an air or helical spring mount from which to suspend the string; an oscillator to impart vibration; and a means of furnishing power for the oscillator.

In principle, the Sonic Pump employs longitudinal vibrational energy to lift the oil which is trapped as it climbs the tubing by a series of check valves, each opening on the downstroke and closing, hence becoming an impeller, on the upstroke. The normal frequency of strokes or cycles is between 600 and 1200 per minute, and the tubing is prevented from dissipating its energy in lateral vibration by the adequate employment of stabilizers.

The pump stroke is normally from three-tenths to a half inch but can be increased to three-quarters of an inch in wells that are less than 1500 feet in depth. With each upstroke of the pump, the fluid is impelled upwards by the valves at a rate considerably in excess of the rate at which the force of gravity tends to pull it back. Thus the fluid continues to rise even on the downstroke.

The entire string does not move up and down, as one might expect, but sections, including those at top and bottom, move according to the principle of harmonic motion in an elastic body. At the fundamental frequency of the string, the two end sections actually move in opposite directions through the cycle while those in the middle of the string remain relatively motionless. By varying the resonant frequencies of the string in whole number multiples, and this is very simply contrived, an optimum setting can be determined for any gravity fluid at any depth, within the limits already specified.

To understand the principle of sonic pumping requires some little knowledge of physics but the process of operation is quite simple. The low maintenance necessary is due to the fact that the only moving parts on the surface are the spring mount, the oscillator, the power source, whatever it may be, and the rubber hose that connects the top of the tubing with the flowline. The oscillator gears and bearings are lubricated automatically by splash feeding from a one-quart reservoir, the level of which merely needs to be checked at long intervals.



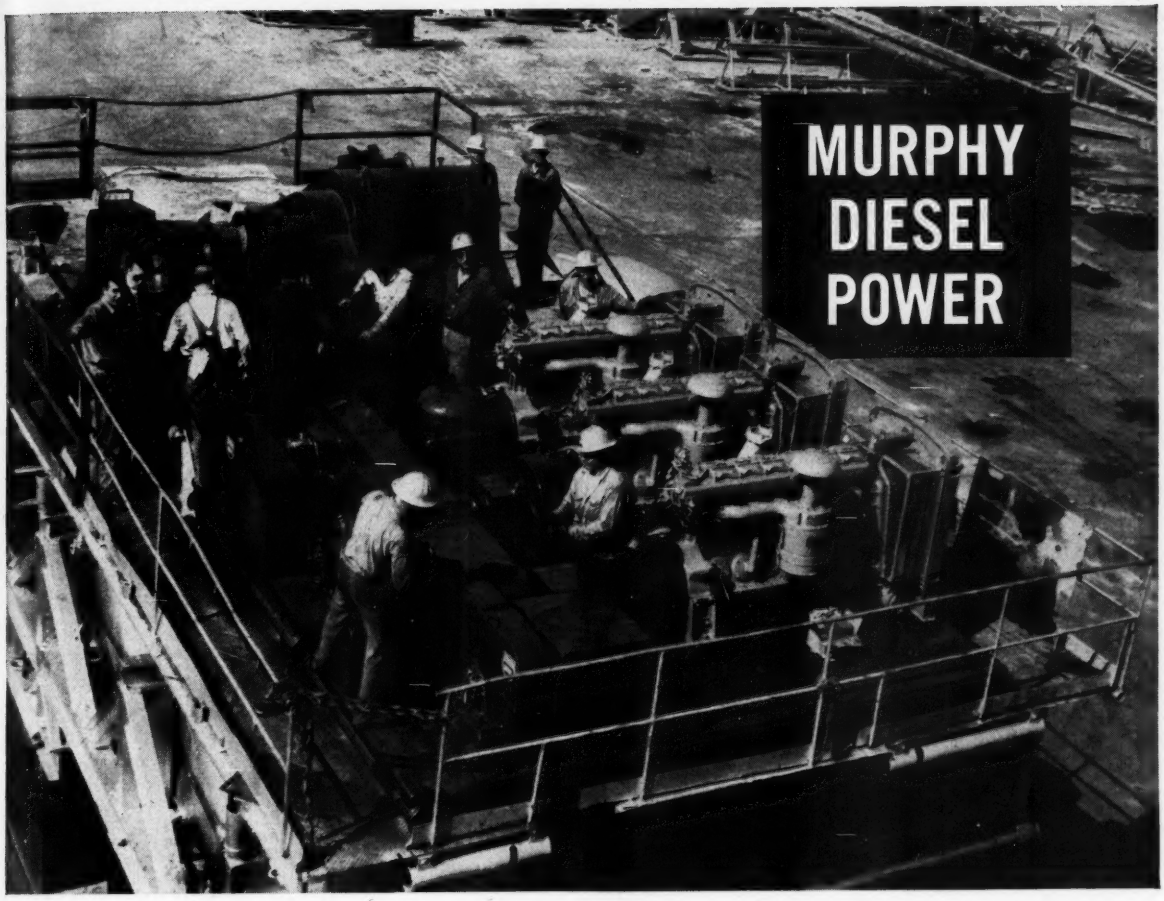
Mechanical oscillator with helical spring mount as it appears at the well head in sonic pump assembly.

Placement of the Sonic Pump originally is much easier than the placement of a conventional pumping unit since it is so much lighter and it needs no base or foundation other than the production casing. By the same token it can be moved swiftly and without resort to anything more than a small pick-up-truck—no winch truck is needed.

It is believed that the power requirement of the Sonic Pump would be approximately the same as for the suction type, but there would be no occasion to do any counterbalancing which in some cases at least would constitute a distinct saving of time and money.

The effects of sand, gyp, and mud would seem to be rather negligible since the Sonic Pump can lose as many as 50 per cent of its valves and still raise fluid. It will even carry such extraneous materials to the surface as long as there is a sufficiency of fluid. On low production wells this carrying capacity can be increased by returning fluid to the bottom of the hole through the annulus. Although in some wells the Sonic Pump showed an increase in production, no such claim is being made for the unit at this time.

The principal disadvantage is in the possibility of parted tubing but this likelihood should be weighed against the frequency of rod partings in conventionally pumped wells, and is claimed by the manufacturers to be



The First Step in Making More Hole Faster

The first step in making hole faster is to select real working power that's dependable and economical.

The ability to produce more footage per fuel dollar is one of the big reasons for Murphy Diesel's popularity with contractors. Talk to any driller in the field who operates a Murphy powered rig, or uses Murphy on the mud pump, on gathering lines, or for marine installations. Find out from Murphy owners . . . the men who know . . . about Murphy Diesel's greater dependability, instantly responsive power, longer life. Then ask your Murphy Diesel Dealer for complete details and specific recommendations for your power needs.

Heavy-Duty **Murphy Diesel Engines and Power Units, 96 to 264 HP; Generator Sets, 64 to 165 KW; Dual-Fuel Engines, 144 to 230 HP; Marine Engines and Auxiliaries, 96 to 243 HP.**

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393P

more than offset by other obvious advantages of the sonic system.

It is also pointed out by the manufacturers that in the case of sonic pumping, the tubing would be wet when pulled but with a tightly made-up string and good valves, they contend that it would seldom be either necessary or expedient to pull tubing.

A third disadvantage to which attention is called is that with the Sonic Pump there is no way of measuring the fluid level in the hole as can be done when a sucker rod pump is used; but as already indicated, the vibration cycle can be changed very easily and readily to assure the optimum operating condition.

In a sandy well the pump should be run as nearly as possible continuously; otherwise enough sand may pile up on top of the valves to render them inoperative when the pump is started up again. Of course, sand in this quantity is a destructive element in sucker rod pumping too.

Taking the pros and cons and balancing them, there is still no doubt that the development of the Sonic Pump is an important advance in production engineering, and by those who are concerned with lifting efficiencies and economies, the future performance of the new units will be watched with more than ordinary interest.

The Newest with the Mostest!

JENSEN'S

All-New

Rotary-Balanced

JACK

. . . oilmen say this new RB model is a superb example of modern, functional engineering design.

Fast, low-cost installation because it mounts on simple steel skid or flat concrete surface.

Its unique rack-and-pinion system enables one man standing on the ground to make counterweight adjustments easily, quickly and safely.

The New JENSEN RB brings profits up, keeps costs down. Get the facts on this all-new RB unit, as well as Jensen's famous beam balanced line of jacks.

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Export Office: 250 Park Avenue, New York 17, N.Y. U.S.A.

JENSEN JACKS

BJ Service Names New Sales Representative For Farmington Station

Dave R. Tomlin has been appointed sales representative for the Farmington, New Mexico station of BJ Service, Inc., according to an announcement by John B. Merritt, executive vice-president and general manager.

Tomlin brings years of varied experience in the oil patch to his new position with BJ. A native of Ft. Worth, Texas, he has been engaged in oil well service operations in the Four Corners area for the past year and has made his home in Farmington.

In joining BJ Service, Tomlin becomes a member of the highly experienced staff of the Farmington station, which was opened on January 25, 1957. The station offers a wide variety of oil well services, including cementing, jet and bullet perforating, and radiation logging. BJ Service is a subsidiary of the Borg-Warner Corporation.

Bowen ITCO Takes Over S. R. Bowen Co.

Fred N. Osmun, president of Bowen ITCO, Inc., Houston, Texas, announces that negotiations to buy the S. R. Bowen Co. of Santa Fe Springs, California, were completed Monday, August 18, 1958.

Bowen ITCO, manufacturers of oil field specialty tools—overshots, jars, spears, and a complete line of wire line equipment—will take over the S. R. Bowen Co. operations immediately, providing uninterrupted service to customers and agents of both companies.

Mr. Osmun expressed the belief that the acquisition of the California oil tool manufacturing company would increase considerably the ability of Bowen ITCO to serve the oil industry in both the domestic and export fields.

FROM OIL: curb-to-curb carpet for America's roads. Gleaming black asphalt ribbons our highways from coast to coast. Its low first cost, economical maintenance, velvety smooth surface, and long life are the main reasons that 75% of today's asphalt production goes to make better roads. Why should *you* be interested? First, because asphalt is an important petroleum product, and second, because as a taxpayer you get more miles per taxpayer dollar—an extra mile in every ten! So every chance you get, speak up for asphalt—and better roads at lower cost. **SHELL OIL COMPANY**

R. M. Pyles, at right, talks over the boys camp named in his honor with three youths who enjoyed two weeks at the mountain camp.

Oil Men's Boys Camp Promotes Good Citizenship

There are no oil fields in the High Sierra of California. But this summer —thanks to the oil industry—some 500 under-privileged but deserving boys are learning to become good citizens in a remote camp in the Sierra wilderness. The isolated mountain retreat is the R. M. Pyles Camp, a cooperative effort of oil men "pulling together to help boys become men."

Pyles Camp for Boys, located in Sequoia National Forest 55 miles northeast of Porterville, was established ten years ago for 12 to 16 year olds from unfavorable environments who could benefit from two weeks of outdoor life in the mountains. Since its establishment more than 2800 boys have spent two week stretches in the camp, fished its streams, ridden horseback on surrounding ridges, swam in cool mountain pools nearby, and learned about nature in the great classrooms of the outdoors.

The youths are selected by local juvenile authorities with the cooperation of educators, recreation directors and social workers. All expenses including transportation, food and camping equipment are provided by the oilmen of five major oil producing counties — Kern, Los Angeles, Orange, Tulare, and Ventura.

The oilmen banded together in 1949 to establish the camp as a tribute to fellow oilman R. M. "Bob" Pyles who long had dreamed of a youth camp where the underprivileged could learn to become good citizens. Pyles, general superintendent of Southwest Exploration Company, had helped many of his industry cohorts weather the depression years and the camp was their way of expressing gratitude.

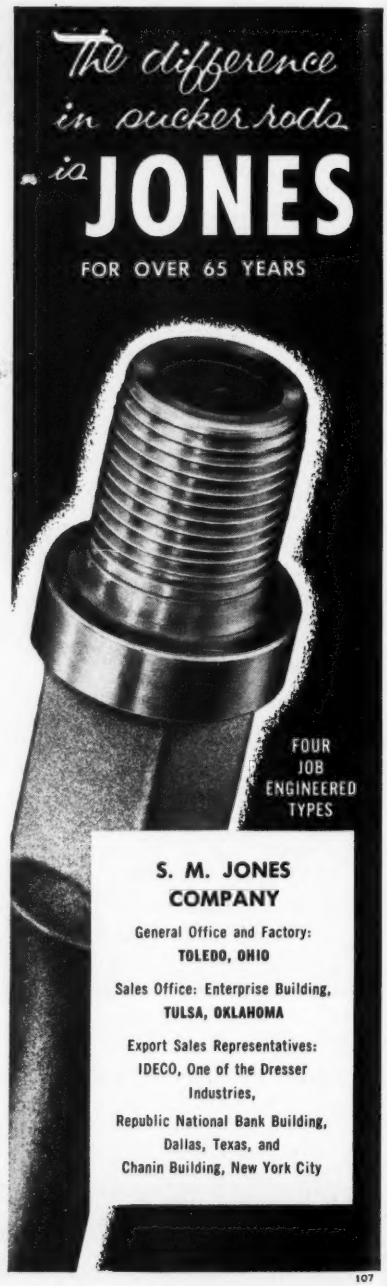
Today the board of directors of Pyles Camp resembles a Who's Who of the Southern California petroleum world, and the Camp has established itself as a project close to the hearts of the entire industry. In addition to providing financial support for the camp, men of the industry also lend their services as summer camp counselors, do construction work on camp facilities, and even pack mules for the six mile trek to the camp from the nearest road. The camp has two full time directors.

Although all come from unfavorable environments, only a minute percentage of the boys who have spent a summer vacation at the Pyles Camp for Boys ever end up as juvenile delinquents. Law enforcement agencies recognize the valuable work being accomplished by the camp.

A man had barely paid off the mortgage on his home when he mortgaged it again to buy a new car. Then he sought out a loan broker to try to borrow money on the car so he could build a garage.

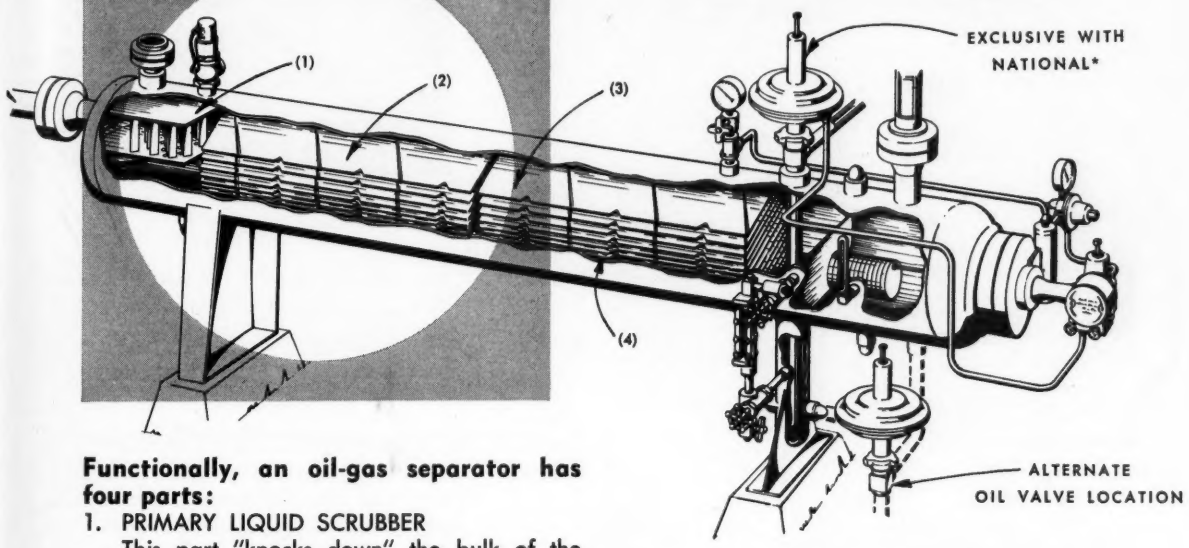
"If I do make the loan," asked the broker, "how will you buy gas for the car?"

"It seems to me," the man replied with dignity, "that a fellow who owns his own house, car and garage should be able to get credit for gas."



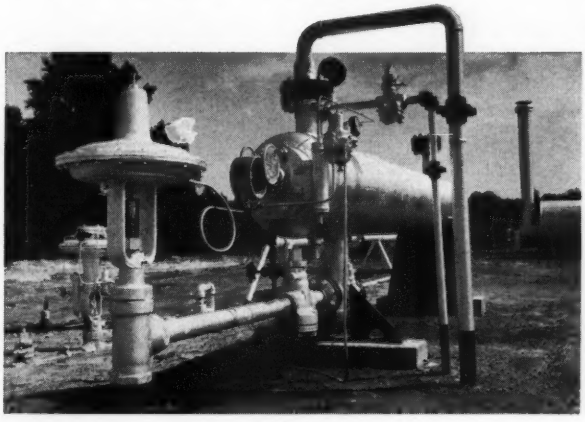
NATIONAL® MONOTUBE®

SEPARATORS



Functionally, an oil-gas separator has four parts:

1. PRIMARY LIQUID SCRUBBER
   This part "knocks down" the bulk of the liquid and removes it from the flowing gas stream immediately.
   National's present design is the result of field tests using full scale operational models which utilized numerous scrubbing elements. From these tests National's present design was found. Today, when you buy a National MONOTUBE Separator, you buy experience, not experimentation.
2. MAIN GAS SCRUBBER
   Also as a result of these tests, proper spacing and length of Main Gas Scrubber plates was discovered, so as to effect the greatest liquid removal from the gas stream.
3. FINAL GAS SCRUBBING
   The multiple field tests with flanged components dictated our design. National's "straight-vane" design accomplishes final liquid removal without the use of "excelsior-like" elements which are prone to be plugged with waxes, sands and other extraneous materials, including hydrates inherent in the normal oil-gas and distillate production operations.
4. OIL DE-GASSING COMPARTMENT
   What effects oil de-gassing? (a) Length of time in compartment. (b) Surface area of oil body. (c) Scrubbing surfaces to remove entrained gases. When (a), (b) and (c) are at a maximum, oil de-gassing is best. National's full-scale field testing found the proper ratios.



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We took a tip from a typist

The question came up at a Heads-of-Departments meeting. Production told Personnel that his new typist asked that a portion of her salary be set aside for U. S. Savings Bonds. Could it be arranged?

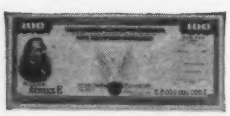
This one question posed another: How many more employees, like the typist, would like to buy Savings Bonds automatically through Payroll Savings, yet, were not aware that we've had a Plan for years?

Finding out was simple.

A phone call brought the assistance of our State Savings Bond Director. He helped plan a company-wide campaign, and provided all the materials to inform our people about the advantages of U. S. Savings Bonds. Everyone received an application card.

The upshot? Employee participation shot up to the highest percentage since the mid-Forties. And the whole program was conducted in good order. Work was never interrupted.

Today there are more Payroll savers than ever before in peace time. Look up your State Director in the phone book or write: Savings Bonds Division, U. S. Treasury Dept., Washington, D. C.



CALIFORNIA OIL WORLD

THE U. S. GOVERNMENT DOES NOT PAY FOR THIS ADVERTISEMENT. THE TREASURY DEPARTMENT THANKS, FOR THEIR PATRIOTISM, THE ADVERTISING COUNCIL AND THE DONOR ABOVE.

Drilling Contractors In Annual Meeting

The Eighteenth Annual Meeting of the American Association of Drilling Contractors will be held in Dallas, Texas, October 1 to 3, 1958. This will open with a meeting of the board of directors on Wednesday afternoon. Committee meetings will be held the following morning and the luncheon period and early afternoon will be devoted to addresses by the mayor of Dallas and the AAODC president, J. U. Teague of Columbia Drilling Company.

Among the papers to be delivered will be "The Oil Industry—Forecast of Economic Conditions and Capital Expenditures" by Dr. Pierre Rinfret; "Things to Come in Drilling and Production," a panel discussion; a review of "Blowout Prevention Training Program" by Frank J. Whitley; "Development of Blowout Control Devices" by W. E. Harrelson; "Combating Wet Formations While Drilling with Air or Gas" by J. L. Lummus, B. V. Randall and R. P. Vincent.

A leader in the campaign for Alaska statehood, Robert Bruce Atwood, chairman of the Alaska Statehood Committee and editor of the Anchorage Daily Times, will be the principal banquet speaker. Alaska has special interest to oil men at this time and is being closely observed as an area of petroleum development.

New Exploration Project in Alaska

Continental Oil Company of Houston is joining Colorado Oil & Gas of Denver and Frankfort Oil of Dallas in the exploration of some 1,100,000 acres of oil and gas rights in the Yakutat Area along the southeastern coast of Alaska. A joint announcement by the three companies said Continental would participate in extensive exploration work extending into 1960.

Colorado Oil & Gas and Frankfort, which hold the oil and gas rights, have drilled two exploratory test wells with encouraging oil and gas indications. A third test now in progress is projected to a depth of 11,000 feet. In addition to the drilling, Colorado Oil & Gas and Frankfort have, since 1956, conducted extensive seismograph, gravity meter and surface geological surveys in the area.

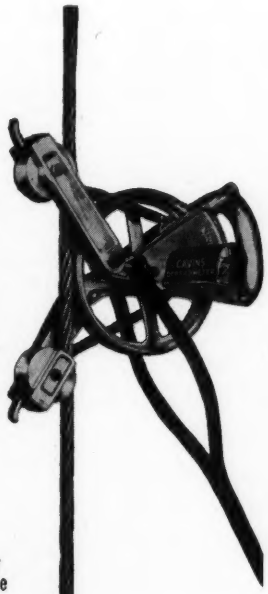
This announced agreement is subject to the approval of the Secretary of the Interior, and it provides that Continental may earn a one-third interest in the Alaskan properties upon the performance of certain exploration work extending through 1959 and into 1960. The projected exploration operations include further geophysical surveys and additional exploratory drilling. Continental Oil will have the right to extend the one-third interest to forty percent in certain of the properties upon the performance of additional exploratory work after completion of its initial commitments.

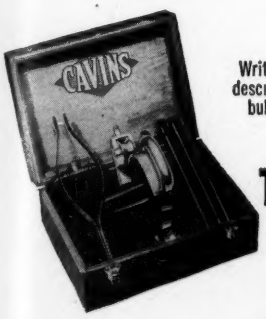
Colorado Oil and Gas has an established operating base in the Village of Yakutat and will continue supervision of operations of the properties.

CAVINS

DEPTHOMETER

The ideal instrument for taking depth measurements with sand lines while bailing, swabbing, or running a single shot survey. Does away with "stringing-in."





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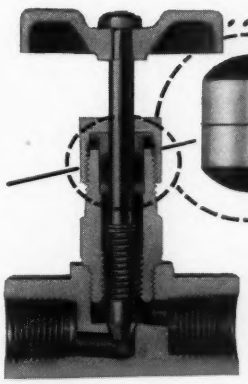
The Marsh Stainless Steel Needle Valve could have gone right on being the finest in its field...yet we have improved it



...with fabulous "TEFLON" packing

Note the "close-up." The Marsh Marpak packing system, originated in the Marsh Needle Valve, was one of the factors that has enabled it to stand up and work right under pressures up to 10,000 psi.

Now "Teflon" is used in this packing system—the miracle material of almost incredible *toughness, resilience* and *non-adhesive* properties...properties that are not impaired by the most powerful of solvents, acids, or alkalies even at temperatures *up to 500° F.*

Net result: The guaranteed application-range (up to 10,000 psi) is now effective at any temperature up to 500° F. (In other makes, permissible temperature decreases as pressure increases.)

Marsh Marpak Teflon Packing System is standard in Marsh 416 Stainless Steel Needle Throttling Valves. Ask for facts.

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Needle Valve in 416
stainless steel throughout
Now with "Teflon" Packing

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THIS LAUGH OFF!!

The crystal-gazer collected $25 for a reading and told the visitor, "This entitles you to ask me 2 questions."

"Isn't that a lot of money for only 2 questions?" the startled sitter queried.

"Yes, madam, it is," answered the fortune-teller gravely. "And now, what is your second question?"

Golf is a game that turned the cows out of the pasture and let the bull in.

An Oklahoma Cattleman bought a Rolls-Royce. When he brought it back for servicing, the salesman asked if he were satisfied.

"Oh, yes," said the cowman. "I especially like that glass partition between the front seat and the back."

"Why," asked the salesman.

"Keeps the cows in the back seat."

A Texan complained bitterly when told to drop 35 cents in the coin box when he made a telephone call between Rhode Island and Connecticut.

"Why, back home we can talk to hell and back for a dime," he protested.

"Maybe so," said the operator, "but from Texas that's a local call."

Traffic is so bad in San Francisco that if you give a man an inch he'll try to park his car in it.

"Have you forgotten that you owe me five dollars?"

"No, not yet. Give me time, and I will."

An eyeful of a redhead had just purchased a baseball, a bat, a fielder's mitt, and a catcher's mask.

"Are you certain you want all these, lady?" asked the clerk.

"Sure, my boss said if I played ball with him, we'd get along fine."

Rosie: "The doctor told me today how I could add years to my life."

Daisy: "How's that?"

Rosie: "Just tell the truth about my age."

Salesman to customer examining TV set: "The tag refers to city, state and federal taxes. The price of the set is additional."

Wifey: "I was a fool when I married you."

Hubby: "Yes, but I was so infatuated with you that I didn't even notice it."

When one hears two eye-witnesses relate the details of the same automobile accident, one begins to worry some about history.

Girl friend: "Thank you very much for this lovely bracelet."

Married man: "Don't mention it. Don't mention it. Don't mention it!"

The history teacher planned to discuss "The Puritans in America" and opened the class with this question: "Does anyone know what people were punished in stocks?"

A voice trilled: "Small investors."

Any woman who ever sat on an antique horsehair sofa understands why grandma wore six petticoats.

Elevator operator: "It isn't the up's-and-down's that bother me so much. It's the jerks."

Girl graduate: "Four years of college and whom has it gotten me!"

A quartet is four people who think the other three can't sing.

"I wonder if Joe loves me?"

"Of course, dear — why should YOU be an exception."

The doctor was having a polite but firm argument, with a patient over the amount of a bill. "You must remember, Mr. Lewis," said the doctor, "you were in pretty bad shape and I fixed you up. You wouldn't question an auto mechanic who got your car running again, would you?"

"That has nothing to do with the case," insisted Mr. Lewis. "If I had a car that was in the condition I was in, I'd trade it in for a new one."

"Mark doesn't seem as well dressed as when he married you five years ago."

"That's funny. It's the same suit."

Botany Teacher—"Where do we find mangoes?"

Pupil—"Where woman goes."

The lady was having some difficulty trying to board the train with a horse.

"Are you out of your mind, lady?" exploded the conductor.

"I can't help it," the woman replied, pushing her horse up the steps to the Pullman, "he gets sick on the buses."

A hometown is the place where people wonder how you got as far as you have.

"I once held a job with 1,000 people under me."

"Yeah? What did you do?"

"Mowed the grass in a cemetery."

"I want a pair of red, open-toed shoes with low heels," said the tall blonde to the shoe salesman.

"To go with what?" he asked.

"A short office manager," was her candid reply.

A teacher wrote this note to Johnny's mother: "Johnny is a good student, but I must find some way to take his mind off the little girls."

Johnny's mother replied: "If you find a way, let me know. I'm having the same trouble with his father."

Gertie says that when some service station operators dance they are all feet and when they stop they are all hands.

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VIBRO-FRAC

SERVICE MEANS

more Oil for YOU!

- 2 BOD increased to 24 BOD
- 0 BOD increased to 18 BOD
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- 700% increase in production

These results are typical of the increases in production obtained in well after well by using Vibro-frac, Lane-Wells' new explosive fracturing service.

Vibro-frac is a wire line service for selectively fracturing formations. High frequency pressure oscillations or shock waves, initiated by special explosives, produce the fracturing effect. These effects are selectively controlled by special methods of perforating.

Developed for low permeability formations which require artificial stimulation, Vibro-frac has been proved safe and effective in both old and new wells by more than a year of testing. Ask your Lane-Wells man about the many formations and areas tested or write for Vibro-frac Bulletin.

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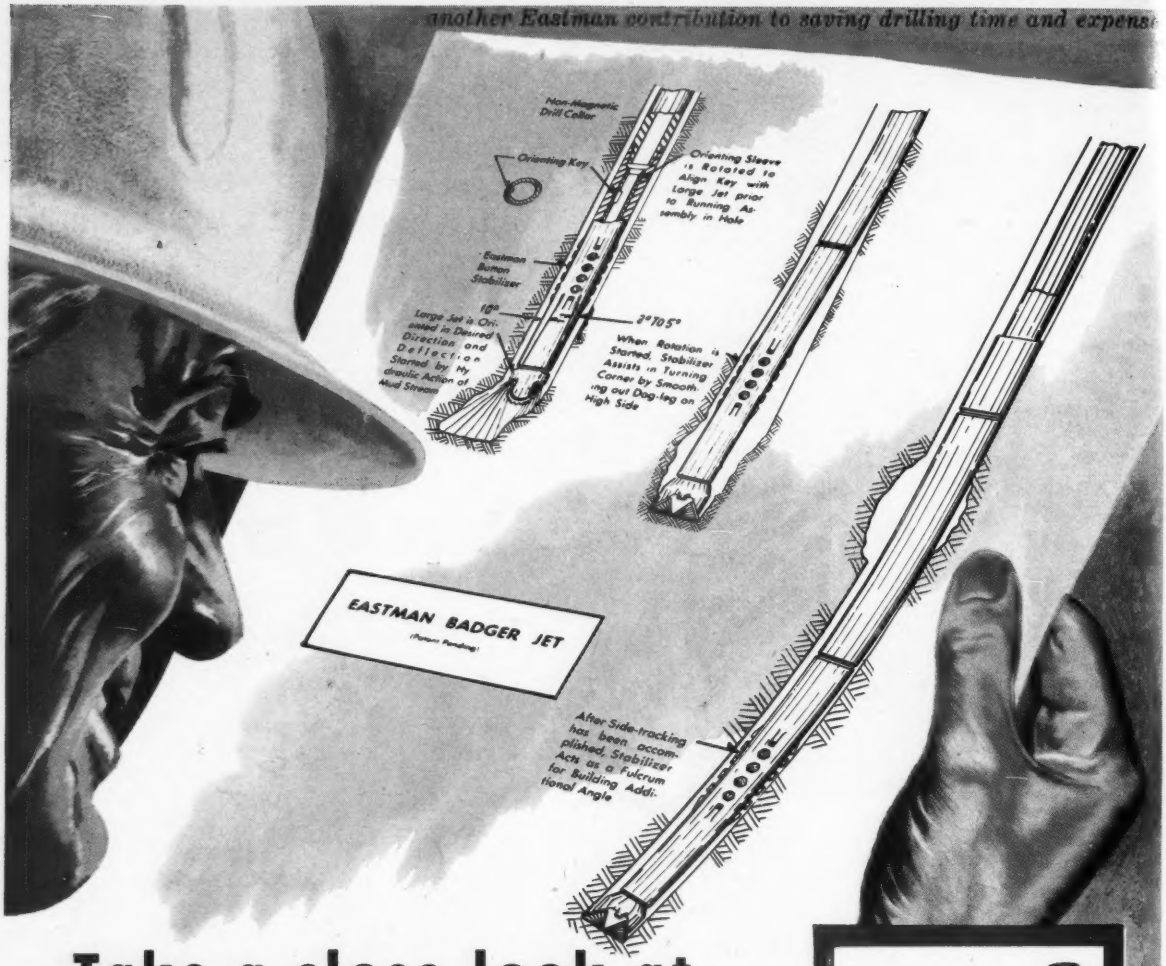
Non-Magnetic Drill Collar
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Orienting Sleeve is Rotated to Align Key with Large Jet prior to Running Assembly in Hole
Eastman Button Stabilizer
18°
2° TO 5°
Large Jet is Oriented in Desired Direction and Deflection Started by Hydraulic Action of Mud Stream
When Rotation is Started, Stabilizer Assists in Turning Corner by Smoothing out Dog-leg on High Side
EASTMAN BADGER JET
(Patent Pending)
After Side-tracking has been accomplished, Stabilizer Acts as a Fulcrum for Building Additional Angle

Take a close look at this Eastman exclusive

. . . See how Eastman's new Button Stabilizer and Badger Jet Combination Solve Deflecting Problems

The EASTCO Button Stabilizer, easiest to field dress of all quick change stabilizers plus the fast drilling EASTCO Badger Jet provides an assembly that is unique in its design and efficiency for directional drilling in soft formations.

It drills a full gage hole; can be reoriented at any time with EASTCO Universal Single Shot B.H.O. instrument without coming out of hole; insures minimum annular restriction for maximum jet action and penetration; introduces hole curvature at uniform rate, minimizing key-seat problems. This is another example of Eastman's development program . . .

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